Providing Emancipation through Maps

Jakub Jaňura*, Jana Stehlíková**

Masaryk University, Brno, Czech Republic
*janura@mail.muni.cz
**jana.st@mail.muni.cz

Extended Abstract

There is a growing number of works, not only in geographical environment, responding to the spatial needs and claims of the disabled. Disability is a broadly discussed concept, based particularly on two aspects: on the physical, health status and on the social situation of the individual (Mowl and Fuller, 2001 or Gleeson, 1999). It is generally understood that some kinds of physical condition, or rather the lack of them, of a person may lead to his or her social inferiority, which may be a gateway to further oppression.

In our aim - to study and describe the accessibility of city space - we cooperate with a group of disabled, above all on wheelchair, who have considerable navigation difficulties. This cooperation, lasting for more than four years, resulted in a number of real applications, such as a wheelchair map of Brno city, the second largest settlement in the Czech Republic.

However the process of creating suitable spatial representation appears to be a lot more sophisticated than just to “draw a map”. Current IT development may lead us to the impression of relative ease of such process, but the results may be confusing.

Accordingly, we decided to base our aims on profound cooperation with the disabled. In order to empower them, there has to be a gradual change of the status and roles of people involved in the research. The geographers should pass the role of spatial experts to disabled people and rather assist during this process. In other words, the experience of disabled was the main constituting element of research itself and its outputs (more about this in: for example Imrie, 1996).

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The possibility to identify and define spatial priorities by users themselves resulted in a succession of surprises on both sides of this process – the researchers and the partners (more on this in: Jaňura, Toušek, 2012). For example, the city centre is naturally barrier space, but for each of the research partners there is an individual net of ways to navigate through. The orientation of a person may be based on very specific entities, such as church towers. In general, most of research partners do have serious orientation difficulties rising from their life experience (typically: significant part of their young life spent behind the gates of various medical institutions) and socio-cultural position (wheelchair users often experience the status of "different" or "less" human). And finally, the wheelchair cannot be presented as a uniting element of a social group; rather it should be understood as a part of individual's life story.

Thus, as indicated "normally designed" map frequently appeared to be insufficient and far from the ideal representation of city space. This may lead us to important points on the cartographical side of the research.

At first, wheelchair users represent a heterogeneous group of map users. Therefore the need for different types of information is apparent. Although a number of cities, including Brno, produce detailed accessibility maps, anybody may feel that the information about the accessibility is limited because the map literacy may be limited too – thus, this factor is worth serious consideration.

For that reason, the accessibility maps should be as intuitive and easy-to-understand as possible. The optimal visualisation method seems to be the usage of special map signs combining the qualitative information, i.e. the type of location, with quantitative information, i.e. the level of accessibility (Otrusinová, Řezník, 2013). Such method of creating accessibility maps would be optimal for paper or simple on-line maps.

However, the ongoing research, i. e. Mulíček, O. (2013) showed that many wheelchair users prefer other ways of presenting reality as they perceive space differently than people without impairment. This may be quoted by one of the members of the focus group who stated that there should be "something as a barrier-free Facebook" (Jaňura, Toušek, 2012).

Nowadays, such applications begin to appear, i. e. the Czech web application "Vozejkmap" which works as a simple social network with users enabled to share the accessibility data. There is an obvious advantage of this application over paper map: the possibility to run it on mobile devices. On the other hand, the information about accessibility is presented by a map so there is no other option of representing space and spatial relations.

The solution leading to the establishment of a barrier-free network of streets and locations in the city centre could be a mobile map application based on a social network which works with adaptive visualisation. Other components of such service would be the exact destination of an individual and the target destination, his or her individual requirements (such as no crooked surface on the trail, etc.) and particularly the database of accessibility data.

All the users could actively participate in the mobile application. More information about participation is described in i. e. Arstein 1969, Connor 2007. It would also enable to adapt the product for every single person and their special needs. An individual can read a map displaying the accessible points in the city; other one may view pictures from the particular places while someone else could hear the information. All of this is advancing the philosophy stated before: to base the product on the needs of users and help them to shape the result.

This information – accessibility of a place or of a part of space (street, etc.) may be used further. The service filled and controlled by the users is going to carry the primary accessibility information, but in a broader view, such device (application, service…) is going to be capable to collect a large sum of accessibility data. It is beyond doubt that these data – generalised, periodically evaluated and confronted with the official structures – are able to tell the story of city progress and reflect the emancipative power of such device.

The resulting device may open the new spaces for a large number of people and enforce them not only in the spatial but also on the socio-political level of life. The stated principle of "bottom-up" work appeared to be effective and regardful attitude towards accessibility mapping. These assumptions lead us to further work and cooperation on the research for accessible (city) space.

The process of building a social network which includes the map application and works with the position and individuality of the user is broadly related to location based service. Our aim is to create socially responsible service and continue with the development in further research.

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