Mobile Map Apps: Toys or Tools?

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As geographic information is increasingly consumed on mobile devices, maps are changing. Roth et al. (2015; ICA proceedings) state: "Maps today are more than an abstraction of the landscape interpreted from afar; they are interactive information repositories that contextualize and enrich the landscape in which the map user is 'situated'." This is possible due to people deploying smartphones wherever they are or move. These gadgets are equipped with up to 20 sensors for staying connected and being locatable in space, for monitoring the environment or oneself, or for communicating with the device. Triggered by technological advancements and human's insatiable curiosity to explore new possibilities, economy is driving an ever increasing numbers of mobile map app offers.

Popular terms to describe the new development at the beginning were 'volunteered geographic information' or 'user-generated content' which made geodata become available to everyone without costs. 'Neocartography' was a consequence, i.e. the shift of map making from the hands of a few professionals to those of literally any lay(wo)men. 'Data democracy' was soon dreamt of leading to the 'open data' policy of today. However, the buzzword 'big data' now poses new challenges. 'Ubiquitous mapping' of whatever, wherever and whenever now even includes 'mapping emotions'. New map types are called 'heat maps', 'slippery maps' or 'MOMM'. Popular techniques in helping to create input to maps are 'geoparsing', 'geotagging', 'geofencing' or 'geotargeting'. Not the crowd (as in 'crowd-sourced') is currently referred to, but increasingly the citizen (as in 'citizen sensor' or in 'citizen science') in order to express appreciation and trust. 'Participatory sensing' is maybe the broadest term of all those activities which build so-called opportunistic mobile sensor networks. 'Online virtual reality' from the computer-game world can be deployed, but more often 'gamification' refers to the awarding of incentives for creating motivation among users to actively contribute. Contrary, concerns about the new developments are expressed by terms like 'mass-self communication' or even 'geoslavery'. Nevertheless, what had started in 1998 as a visionary concept of 'digital earth' by AlGore is currently turned into the 'geocloud' or the ambitions of 'smart city'.

Starting with a juxtaposition of demands for maps almost 100 years ago (s. Die Karten-wissenschaft by Max Eckert, 1921/25) and those wished for maps of today, further background is provided by also looking into the app economy and the potential for mobile map applications. Guided by the long list of trendy words in the field of mobile maps of above, the presentation then aims to exemplify the current trend by looking into useful and less useful mobile map applications as well as of cartographically pleasing and less pleasing applications. We are aware that this approach of picking about 15 map apps for demonstration purposes is likely to provide a biased view. However, it serves here the purpose of steering discussion among the participants. The presentation will end with a summary on what we judge to be important for coming up with convincing mobile map applications. This allows us to point to the relevance of empirically-tested cartographic products and the user-centred design approach targeting the triangular relationship user –

utility – usability for a successful interface design. We like to conclude via listing the striking observations made while exploring mobile map applications as well as our demands in regard to technological standards, map app usage and long-established cartographic design rules.