

**Dissertation Release**

**13.4.2022**

# **Design science research supports creation of social, gamified and crowdsourced map applications**

<b>Title of the dissertation</b>	Approach for creating useful, gamified and social map applications utilising privacy-preserving crowdsourcing
<b>Contents of the dissertation</b>	<p>The production and use of geographic information have become easier and more social. The interactivity of maps has fundamentally changed, not only because the touch-based interfaces are easier to use, but also because maps offer possibilities to interact with others. Map applications allow citizens to contribute but also share content to others. This contribution and sharing done by regular people is referred to as crowdsourcing. Map applications that utilise crowdsourcing face specific issues regarding the creation process, the usefulness and the crowdsourcing. These issues, however, have not been studied comprehensively and lack real world examples. Design science research is a strategy for both creating new solutions and producing scientific knowledge about the solution.</p> <p>The objective of this work was to ease the design and development of crowdsourced map applications and offer scientific knowledge about them. Three crowdsourced map applications were studied in this work using design science research. This work provided a design science research-based approach for supporting the creation of crowdsourced map applications. The work also compiled the relevant utility and usability requirements of map applications. In addition, the work presented social, gamification and privacy-preserving methods for supporting crowdsourcing in map applications. The results of this work can be used to create and study new crowdsourced map applications.</p>
<b>Field of the dissertation</b>	Geoinformatics
<b>Doctoral candidate</b>	Mikko Rönneberg, M.Sc. (Tech.), born in 1983 in Helsinki, Finland
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<b>Place of the defence</b>	Aalto University, Otakaari 1, 02150 Espoo, Finland, Auditorium M1
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<b>Electronic dissertation</b>	<a href="https://aaltodoc.aalto.fi/handle/123456789/113928">https://aaltodoc.aalto.fi/handle/123456789/113928</a>
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