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Model-Driven Approach for Making Citizen Science Data FAIR

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Abstract. Citizen Science (CS) initiatives have proliferated in different scientific and social fields, producing vast amounts of data. Existing CS projects usually adopt PPSR Core as a data and metadata standard. However, these projects are still not FAIR (Findable, Accessible, Interoperable and Reusable)-compliant. We propose to use DCAT as a data and metadata standard since it helps to improve the interoperability of CS data catalogs and all the FAIR features. For this purpose, in this paper we present a model-driven approach to make CS data FAIR. Our approach has the following contributions: (i) the definition of a metamodel based on PPSR Core, (ii) the definition of a DCAT profile for CS, (iii) a definition of set of automated transformations from PPSR Core to DCAT. Finally, the implementation of the model-driven process has been validated by evaluating several FAIR metrics. The results show that our proposal has significantly improved the FAIR quality of CS projects.

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