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Self-maintaining online geo-data documentation platform based on standardized metadata and reusable learning objects

Nico Schrage, Dejan Antanaskovic, Edgar Nehlsen, and Peter Fröhle

Hamburg University of Technology, Institute of River and Coastal Engineering, Civil Engineering, Germany (nico.schrage@tuhh.de)

The aim of the EasyGSH-DB project is to publish high quality, high-resolution reference data products on geomorphology, sedimentology and hydrodynamics for the area of the German Bight by using available measurements, hydrodynamic simulations and analyses. An objective of the sub-project EasyGSH-ModLearn is to accompany these products with an information and learning website. A context-based topic map will give easy and fast access to particular topics on knowledge and methods used, since website visitors can visually navigate through them. The e-learning concept of reusable learning objects (RLO) allows for storing granular knowledge snippets. RLOs can be accessed from different topics and modularly concatenate in desired order. One main heading of the website is dedicated to the available products. Since products can change over time due to update cycles, a dynamic website rendering with those changes is essential to keep it up to date. As an innovation, the idea of linking the standard conforming metadata (e.g. ISO 19115) that will alter with data sets and RLOs is presented.

The objective is to provide readable, up-to-date information rendered directly from metadata with focus on accessibility, lineage and data quality. The tedious task of specifying the numerous fields required for conformance with standards (e.g. ISO 19115) likely discourages data providers to specify comprehensive and readable metadata entries. Specifically, for institutions or consortia - as in this project - that publish many similar datasets differing in spatio-temporal extent or resolution need to maintain different yet similar and consistent entries throughout all metadata sets. The use of a controlled terminology for metadata to describe sources, process steps and data quality, reduces editing efforts. Additionally, this helps establishing the linkage to an RLO database to extract detailed information to the specified metadata aspects. As an example application, this technique is used to dynamically render webpages for each product utilizing a template profile sheet with pre-defined categories. A great advantage is the possibility to correct or complement existing descriptions centrally.