


Chairs / Institutions	Chair of Cartography
Leading professorship	Prof. Dr. Lorenz Hurni (lhurni@ethz.ch)
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Project title	Unsupervised Classification of Illustrative Cartographic Styles
Abstract:	<p>Illustrative maps or map elements (e.g., hand-drawn, iconographic, or perspective; see also Figure 1) show a high potential for applications where inspiring creativity and encouraging discussion are key objectives – e.g., for spatial design. It is unclear, however, which illustrative styles are best suited for this purpose. In general, there is no clear definition and categorisation of cartographic styles.</p>  <p><i>Figure 1: Exemplary hand-drawn, iconographic, and perspective map excerpts (from left to right).</i></p> <p>Unsupervised classification through feature clustering can help to identify the patterns within the data which might not be immediately apparent through visual inspection alone. It can potentially help to conceptualise the definition and categorisation of cartographic styles. Pre-trained image feature extractor as well as metadata information can be used as feature descriptors for clustering.</p> <p>Thus, the goal of this project is to investigate unsupervised classification of illustrative maps so as to categorise and conceptualise different cartographic styles.</p>
Work Packages (tentative):	<p>WP1: Collecting and preparing the maps to be classified by digitalising maps from 1–2 books</p> <p>WP2: Literature review of existing style categorisation schemes and methods as well as unsupervised classification / clustering techniques</p> <p>WP3: Determining feature descriptors and applying classification methods</p> <p>WP4: Interpreting the classification results and compare it with existing style categorisation schemes</p>
Number of students per group (1–3)	Project Work: 1–2 Master Thesis: 1
Maximum number of groups	1
Language (incl. report, oral presentation and poster)	English