
Scholarly primitives from a workflow perspective

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Abstract

The concept of "scholarly primitive" has been widely welcomed both by humanists and system designers in the humanities, due to the fact that it made it possible to have a solid conceptual basis for the operationalization of the essential functionalities required for advancing computer-mediated work in the humanities. It has also helped to prioritize, and to provide general frameworks for the analysis of system requirements, which otherwise would have remained vague, or too specifically tied to the particular projects.

However, in the design of actual systems or digital infrastructures, most initiatives that have tried to apply the concept of "scholarly primitive" have acknowledged the importance of looking at the relationship between them (e.g., Palmer et al., 2009), but haven't framed these primitives or activities within the larger workflows in which researchers transition from one activity to the other, or perform multiple connected activities in tandem.

One of the most fully-fledged conceptual models for scholarly research activity based on scholarly primitives was developed by DARIAH (note 1). Grounded in conceptual and empirical research, this conceptual model aims to fit the needs of the actual research life-cycle (Benardou, 2013), with the resulting NeDiMAH (note 2) Methods Ontology (NeMO) centered around a list of research activities, which are hierarchically connected by means of a taxonomical structure.

We have developed a process perspective that can help to understand how these activities are interconnected. For example, the activity "gathering" is defined by the NeMO ontology as "aggregating discovered resources [...] for further analysis." (note 3). While this normalization of the activity name and definition is useful for several purposes in system design, the NeMO ontology makes no connection to the activities that occur during "discovering" or "analysis", which makes it difficult to understand how "gathering" occurs in practice, and how it works in real contexts where other activities precede, succeed, or occur simultaneously to the "gathering" activity.

The lack of understanding of the scholarly primitives (or of the research activities) in a workflow perspective has negative implications in designing systems that support the research life-cycle. To overcome this limitation, this paper introduces the concept of "workflow transitions" and presents investigations of scholarly work using this concept. The method we propose consists of selecting a sample of representative "research projects" (Koolen et al., 2020) and use them as the unit of analysis for the study of workflows and workflow transitions.

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We developed our approach through analysing the research process of two digital humanities projects in great detail, by interviewing the project collaborators (using Critical Incident Technique), studying their papers and looking at datasets, tools and scripts.

In this paper we will present the resulting workflow visualizations, the findings of our analysis and their implications for digital infrastructure support for humanities research.

Footnotes:

<https://www.dariah.eu>

NeDiMAH.eu

<http://nemo.dcu.gr/index.php?p=navigate#>

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