Distilling Design Patterns From Agile Curation Case Studies (IN41A-1656)

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Abstract

In previous work the authors have argued that there is a need to take a new look at the data management lifecycle. Our core argument is that the data management lifecycle needs to be in essence deconstructed and rebuilt. As part of this process we also argue that much can be gained from applying ideas, concepts, and principles from agile software development methods. To be sure we are not arguing for a rote application of these agile software approaches, however, given various trends related to data and technology, it is imperative to update our thinking about how to approach the data management lifecycle, recognize differing project scales, corresponding variations in structure, and alternative models for solving the problems of scientific data curation. In this paper we will describe what we term agile curation design patterns, borrowing the concept of design patterns from the software world and we will present some initial thoughts on agile curation design patterns as informed by a sample of data curation case studies solicited from participants in agile data curation meeting sessions conducted in 2015-16.

Introduction

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Process: Values -> Practice -> Design Patterns

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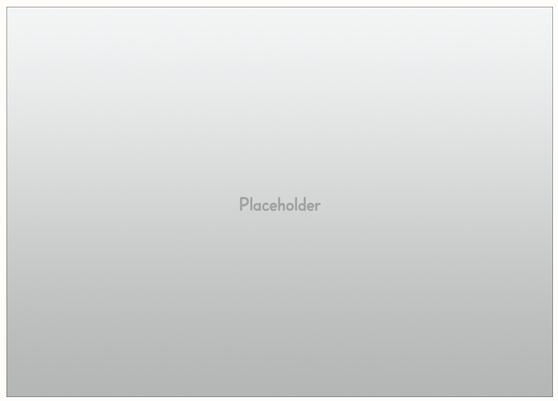

Figure: Information flow into developed design patterns.

Conceptual Model for Agile Data Curation Design Patterns

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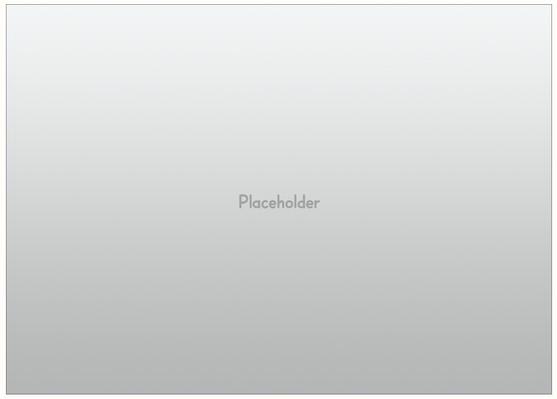

Figure: *Agile Data Curation* design pattern elements.

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Illustration of the Design Pattern Conceptual Model to a Developed Data Management, Discovery and Access Platform - GSToRE

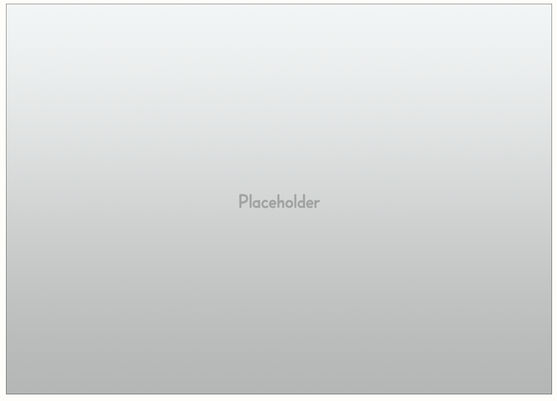

Figure: The Geographic Storage, Transformation and Retrieval Engine (GSToRE) Platform .

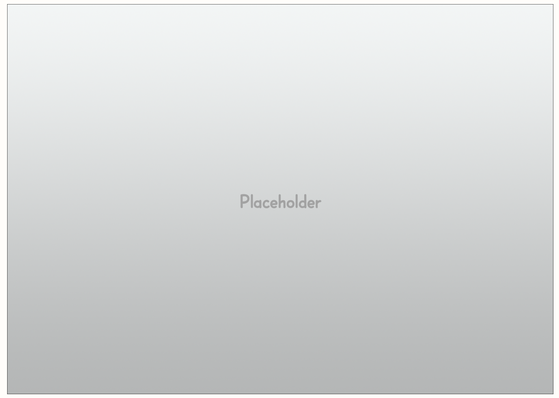

Figure: Mapping of the GSToRE Platform's Capabilities into a Set of Design Patterns.

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Conclusions

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Acknowledgements

This work has been partially supported through funding from the National Science Foundation (#IIA-1301346)