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Rising from Firm Foundations: A New Domain Model for Digital Curation

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Digital curation is a complex of actors, policies, practices, and technologies that enables meaningful consumer engagement with content of interest across space and time. At the University of California Curation Center (UC3) we have embarked on a comprehensive reassessment of our curation services and systems to ensure that they are meeting our goals most effectively. In doing so we found ourselves almost immediately asking seemingly simple, yet deceptively difficult to answer questions, such as what exactly do we mean by digital curation and preservation? While there exist a number of useful frameworks for specific areas of curation activity, for example, the Open Archival Information System (OAIS), Trusted Repositories Audit and Certification (TRAC), Preservation Metadata Implementation Strategies (PREMIS), and others, it is not clear how, or indeed whether, these disparate efforts cohere into a unified and encompassing model of the curation domain. For example, many of the concepts at the heart of these standards, perhaps most problematically, “digital object”, remain woefully overloaded and under-formalized. Consequently, UC3 has developed a new model of the curation domain to provide a self-consistent and comprehensive conceptual foundation for the planning and evaluation of its activities (<http://wiki.ucop.edu/display/Curation/Foundations>).

The UC3 model draws freely from many prior efforts in the digital library field, but also incorporates a number of relevant concepts from other disciplines. Most notably, the model considers digital content in terms of five semiotic dimensions of semantics, syntactics, empirics, pragmatics, and dynamics, which refer respectively to content’s underlying abstract *meaning* or *affect*, symbolic *encoding* structures, physical *representations*, realizing *behaviors*, and *persistence* and *evolution* through time. Correspondingly, there is a hierarchical typology of accumulating content utility comprising *entities*, *artifacts*, *articles*, *commodities*, *assets*, and *heirlooms*, which are respectively existential, intentional, purposeful, meaningful, useful, and reliable digital objects. An entity, for example, refers to any undifferentiated digital carrier; an artifact is created through a formative act of *identification* that demarcates and fixes a *particular* set of bits on a carrier that can then effectively be the focus of curation interest; an article is created through an informative act of *characterization* that types an otherwise syntactically opaque artifact; a commodity is created through another informative act of characterization that *describes* an otherwise semantically opaque article, and so on.

Content engagement is modeled in terms of *productive*, *managerial*, and *consumptive* roles and loci of concerns that co-exist across a continuum of *originating*, *organizing* and *pluralizing* dimensions that respectively encompass the establishment of, codification and imposition of structure upon, and extension of the reach and consequence of curated content. Curation policies, strategies, and plans are

modeled in terms of six imperatives: *predilect*, *collect*, *protect*, *introspect*, *project*, and *connect*. Each of these imperatives is applicable to every typological class. For example, the protect imperative applied across entities, artifacts, articles, commodities, assets, and heirlooms leads to considerations of *environmental*, *administrative*, *technical*, *intellectual*, *access*, and *change* control.

The UC3 curation domain model provides a comprehensive, yet parsimonious framework in which to conceive, plan, and evaluate its services and initiatives. While the terminology and concepts defined by the model may appear somewhat unfamiliar, they can be used to make unambiguous, concise, yet nuanced statements concerning curation intention, policy, and outcomes. UC3 welcomes comment and discussion of its work (<http://wiki.ucop.edu/display/Curation/Foundations>).