

THE NATIONAL GALLERY'S MELLON DIGITAL DOCUMENTATION PROJECT: *THE RAPHAEL RESEARCH RESOURCE*

Mara Hofmann, February 2009

Since 2007, the Andrew W. Mellon Foundation has been funding a series of pilot projects in digital recording and transmission of conservation documentation (<http://mac.mellon.org/issues-in-conservation-documentation/pilot-projects>).

The National Gallery's Mellon Digital Documentation Project has been centred on the Gallery's remarkable and diverse group of ten paintings by Raphael because there is extensive primary material on Raphael, much of it already interpreted in various publications. The outstanding documentation on Raphael, kept across the National Gallery's departments and archives is currently available only internally and to visiting scholars. For the first time, this valuable resource, compiled over nearly 200 years since the National Gallery's foundation in 1824, will be made available digitally for both specialists and the general public. In this way users of the website will have access to images ranging from paint samples and infrared reflectograms to pages from Cavalcaselle's sketchbooks and 16th-century documents (complete with translations). Collaboration with other institutions (currently the National Galleries of Scotland, Edinburgh, the Metropolitan Museum of Art, New York and the C2RMF, Paris) will allow for the inclusion of other works by Raphael, bringing together art-historical, technical and conservation-based information and creating a platform which could eventually host Raphael's complete oeuvre in unprecedented depth.

The pilot phase of the project, initiated by Jill Dunkerton (Senior Restorer) and Ashok Roy (Director of Scientific Research), was funded by The Andrew W. Mellon Foundation for 22 months until May 2009. The database has been developed by Mara Hofmann (Mellon Fellow) and Joseph Padfield (Senior Scientific Officer). The continuation of the project is currently under discussion with the aim of establishing a *Raphael Research Resource* which would include more of his works and all available documentation.

RESEARCH AND DEVELOPMENT OF DATA STORAGE.

Joseph Padfield, February 2009

The initial proposal for this project indicated that we would further develop an existing MYSQL database schema, built in the Scientific Department at the National Gallery. This database was designed to be a very generic relational database, focusing on Objects, the varied Events within their life span, the Actors responsible for the events and the Locations in which the events took place. By concentrating on very generic terms rather than more specific ones, the database was simplified and made more flexible, better suited to cope with future changes in requirements. This initial database structure was made up of only 15 tables, but would have required additional tables to store all of the linkage information. In November of 2007 this work, along with the associated user interface development, was presented to the National Gallery Scientific Consultative Group (NGSCG). During the presentation it was suggested, by

Professor Wendy Hall (<http://users.ecs.soton.ac.uk/wh/>), that we should continue the simplification process of the relational database and move to a completely different form of data storage, RDF Triples. This process allows for an even simpler database structure, basically a single table storing everything as triples. In addition to a triple store, this type of system also requires an ontology to describe the general types and properties of objects and a thesaurus describing field specific things and materials. Full migration to a separate triple-store system, such as 3store (<http://sourceforge.net/projects/threestore/>), with complete integration of an international standard ontology such as the CIDOC Conceptual Reference Model (CRM), (<http://cidoc.ics.forth.gr/>), has not been carried out within this project due to time constraints and integration issues with some of the tools used in the graphical user interface. However, as a result of examining this type of system the Raphael project database has now been adjusted to store information in the form of triples (see figure 1) and the work carried out will provide a good stepping stone from which to migrate to using a fully integrated RDF Triples based system in the future. At this point the Raphael project database has just passed 100,000 triples and is still growing.

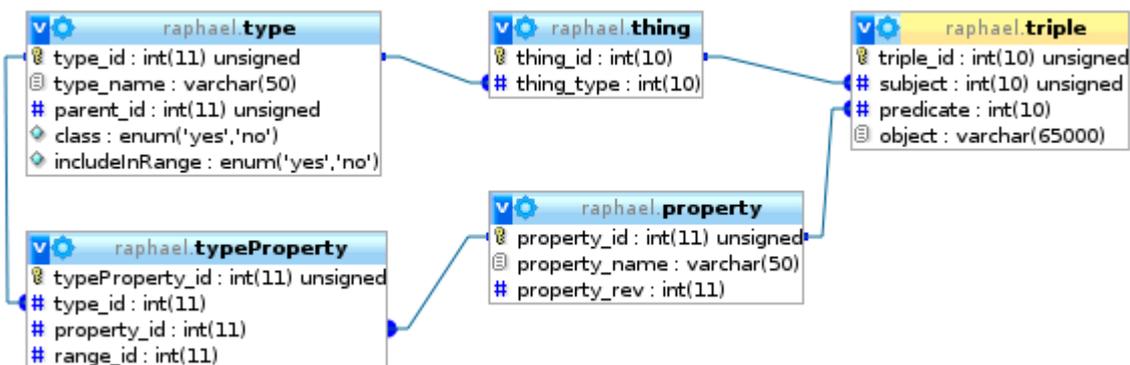


Figure 1: Current complete database schema for the Raphael project.