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2D and 3D Object Reconstruction for the Cottonian Collection

This work will develop new digital libraries from aging and damaged portions of the Cottonian Collection at the British Library, tailored to the requirements of scholars in the humanities. The project will deliver state-of-the-art technical approaches to restoring severely damaged manuscripts, searching them as images, and presenting electronic editions for a widely distributed digital library of restored and edited previously inaccessible manuscripts. In particular, the technical focus will encompass the following important research areas:

- * Restoring manuscripts by using novel lighting methods and 2D/3D digital image processing algorithms making it possible to enhance, recover and restore information that would otherwise be invisible or illegible
- * Searching manuscript collections using a new representation that supports fast and efficient search strategies over the images themselves and the structured information that is added to the image collection throughout the editorial process, such as text, commentary, links to other resources, and restoration parameters applied to specific portions of the images.
- * Editing collections using tools that are developed specifically for scholars in the Humanities to allow efficient assembly of complex editions from high-resolution digital manuscript data

The project has strong support from IBM through a Shared University Research (SUR) commitment. Likewise, partnership with the British Library provides privileged access to high-quality collections, manuscript and curatorial expertise, and digitization facilities. The University of Kentucky is designating space and network communications support in the W.T. Young Library for Collaboratory for Research in Computing for Humanities. The close collaboration of computer scientists and scholars in the humanities will insure that the technical approaches facilitate the use by scholars of currently inaccessible cultural documents.