

emkara project: general research objectives

The purpose of the Emkara project is to provide an experimental environment for investigations concerning the archiving and retrieval of mathematical knowledge via web-based interfaces. At the design level, emkara is a document management system that provides for and encourages extensive use of metadata and allows for flexibility in the definition of the form of mathematical content to be archived. For each definition of a new form of mathematical content, Emkara generates default edit and view interfaces. These interfaces may be modified or replaced in order to provide flexibility in both the manner in which mathematical content is archived and the manner in which it is retrieved. The types of investigations that might be undertaken with the aid of emkara interfaces include:

- data mining: what forms of data can profitably be collected from user interaction with emkara based interfaces?
- grey literature: what forms of archiving are suitable for grey literature?
- interface design:
 - what form of interface is suitable for a particular device?
 - what interface are necessary to support commercial access to data?
- data encoding: is it more efficient to encode data in multiple formats or to provide translation? If translation, should it take place on the server or on the client?
- interaction with remote services: to what extent can an emkara system interact with remote services (i.e. a pre-print server) via SOAP/XMLP or the emerging Web Ontology Language protocols.
- use of metadata:
 - what forms of metadata are necessary for different communities?
 - to what extent can system “decisions” based on metadata be exposed to the user?