

**The University of Texas at Austin
School of Information**

**Qualifying Examination for Mr. Donald Drumtra
12 January 2004**

Answer each of the following questions as directed. Write each of them as a separate document and submit the resulting four documents to Dr. Francis Miksa, chair, by Friday, 16 January 2004 at 5 p.m. Your answers may be submitted electronically. In writing your answers, use 12 pt. type, double spacing (except for indented stand-alone quotations), and use 1” margins on all sides of each page. Be sure to divide each answer into labeled sections as appropriate to facilitate their reading and comprehension. Include a reference list with full citations at the end of each document.

I. Question from Dr. R. Bias:

In your (Mr. Drumtra's) research concept paper, you say, "The structuring of databases and their contents are important if they are to be useful tools for business decision-making." Your paper goes on to suggest that the design of data structures is catch-as-catch-can, with no accepted, systematic approach to guarantee, or even maximize, success. When the field of user interface design was in a similar state, it benefitted from a turn to a user-centered design approach, where user data are gathered to inform (early on) and validate (in later stages) user interfaces.

Discuss any research on database structure design that involves users of the ultimate databases in an empirical, iterative design approach. If this corpus of research is thin, summarize some of the literature on user-centered approaches to user interface design, or to other design, that might be applied to the design of database structures.

II. Question(2) from Dr. G. Harmon:

During the pre-Internet and Web eras, the information life cycle was typically portrayed as somewhat of a linear, sequential, and relatively slow and orderly process. For example, Harold Borko described the information life cycle as the functions associated with “the origination, collection, organization, storage, retrieval, interpretation, transmission, transformation, and utilization of information.” (Borko, H. (1968). *Information Science: What Is It? American Documentation*, 19, 3-5).

Given current Internet and Web operations, as we might typically represent them today, how might the information life cycle be modeled, in terms of its fundamental nature, sequencing, spatial dimensions and dynamics? What are some of the implications of this “new” information life cycle for database designers, managers, and users? You need not spend time addressing the distinctions that can be made between data, information and knowledge. Report on critical sources as appropriate.

III. Question from Dr. L. Browning:

1. Please write out a listing of the things that are important principles for qualitative research. Do this by simply listing 10 commandments of qualitative research and offer as many sentences of justification and explanation as possible given the time constraints.
2. Given your research interest, please list specifically why qualitative methods are useful in the development of a contribution to knowledge.
3. Please address the problems and that must be overcome with the application of the qualitative paradigm to your research question.
4. Offer a single hypothetical example of a finding on your topic given this method and analyze it enough that the reader can see what might be possible with your research.

IV. Question from Dr. F. Miksa:

In some realms, the idea of a basic category or class is defined only loosely as the key categorical concept in some cluster or structure of related concepts, rather like a linchpin concept. Historically, however, the idea of a basic (i.e., fundamental, beginning point) class or category has been viewed as part of a more formalized hierarchical structure of such categories.

Three such realms of the idea of a basic class as key to a hierarchical structure of classes are: Library classification, Biological taxonomy, and Human mental categorization studies in anthropology and psychology. In library classification basic classes (called main classes) are found at the top end of a classificatory hierarchy with the lower reaches of the structure being open ended. In biological taxonomy basic classes (called species) are at the approximate bottom end of a classificatory hierarchy (with due allowance for subspecies/varieties) with the top end elements fixed. In human mental categorization, basic classes are found in a middling position in a hierarchy, with neither the upper or lower reaches of the structure fixed in their elements and with little impetus to identify such extended elements.

1. Describe these three approaches to basic/key classes as to what central concepts they involve, how they are determined, and their significance or basic importance for the field in question. Your descriptions should be based on sound references to key writers in the respective fields.
2. Critically evaluate each of the three approaches as to their strengths and weaknesses within the realms in which they are found. Here too, base your discussion on key critical writings in the relevant fields, although in this case you also have considerable latitude to insert your own critical observations as well.