

Internet Interoperability

UCT CSC4000w/4003w – Final Exam – August 2006

Organisations such as the National STEM (Science Technology Engineering and Mathematics) Digital Library seek to collect and disseminate metadata from numerous partner institutions into various online information management systems. For this purpose they have adopted the notion of a “spectrum of interoperability” for the collection of data. In order to carry this notion through to the data dissemination phase, various data transfer techniques may be applied, including RSS/Atom, SRU/SRW, Z39.50 and OAI-PMH.

You have been approached by an aggregator of information, such as NSDL, in your capacity as an interoperability expert. You have been asked to write a discussion document, explaining the data/protocol interoperability options that are available and motivate for your choices, providing guidelines for them to interpret the standards based on best practices. After much thought, you have opted to recommend a combination of RSS 2.0 and OAI-PMH 2.0.

As an outline for the discussion document, you have already decided upon the following:

- ❖ A short overview of RSS
- ❖ A short overview of OAI-PMH
- ❖ A comparison of the two technologies, in terms of applicability, complexity, completeness, standards adherence, current usage, tool support and validation options
- ❖ What data each of RSS and OAI-PMH may be applied to
- ❖ Implementation recommendations i.e., recommendations for how to interpret parts of the standards where options are available, with motivations in each case
- ❖ Future standards efforts to watch out for
- ❖ References

Your task is to complete the report, following the outline above, focussing on the comparison and implementation recommendations, and including any additional sections on major issues that you deem important.

You may assume that the requestor of the report already knows about underlying technology such as XML and databases. Otherwise, clearly state any assumptions and include reasons for decisions wherever applicable.

You may consult any reference materials (paper or online), but you MAY NOT discuss the problem with any individuals (that includes your classmates and especially persons associated with RSS or OAI-PMH).

Format your discussion document as 12pt Times Roman, 2.54cm margins, single-spacing. Your proposal must not exceed 3000 words and must not number more than 8 pages, including figures, tables and references. Include all references to documents you have consulted.

Submit a printed copy to the CS admin office by 12 noon on the handin date for the exam (5 September 2006). No late handins or handwritten solutions will be accepted.