P2P for ePortfolio

"In 2010, every citizen will have an ePortfolio."

Presently, there are almost 500 million citizens in the EU. In order to even consider a system that can support the grand aim of enabling every citizen to have an ePortfolio, we must consider the following desirable qualities of such a system:

- *Scalability* – The ability to allow a networked system to scale hugely without the need for additional network infrastructure to be introduced to accommodate the growth. For everyone in the EU to have an ePortfolio, a system that can scale up to hundreds of millions of users will be needed.

- *Platform Interoperability* – For such a large user-base, network and platform diversity will exist. In order to cater for this, technologies to allow interoperability between different network and operating system platforms must be present.

- *Device heterogeneity* – Diversity not only exists amongst network and operating system plaforms, but also in the classes of hardware itself. Consider that mobile technologies such as Personal Digital Assistants and Smartphones are growing in prominence today, by 2010 they may be commonplace and perhaps even a new breed of technologies may emerge. Enterprise level hardware ranges from servers up to large-scale supercomputers.

Researchers from the Advanced Computing and Emerging Technologies Centre (ACET) at the University of Reading (UK) are developing a Knowledge Management application that aims to incorporate the aforementioned qualities. Scalability is addressed through using a peer-to-peer (P2P) network infrastructure. Interoperability is addressed by building on the multi-platform technologies afforded by Sun Microsystem's Java and the platform agnostic technology, JXTA. We approach device heterogeneity by identifying suitable levels of service provision for different scales of computing device.

Building on the Resource Description Framework (RDF), we allow for search and annotation of resource metadata and represent resources with a unique naming scheme. This application allows for search and metadata annotation for any resource document and thus could be used as a basis for a distributed system for ePortfolio management. If ePortfolios were to be implemented with XML technology, our Knowledge Management application could also be very easily be adapted specifically for ePortfolio.

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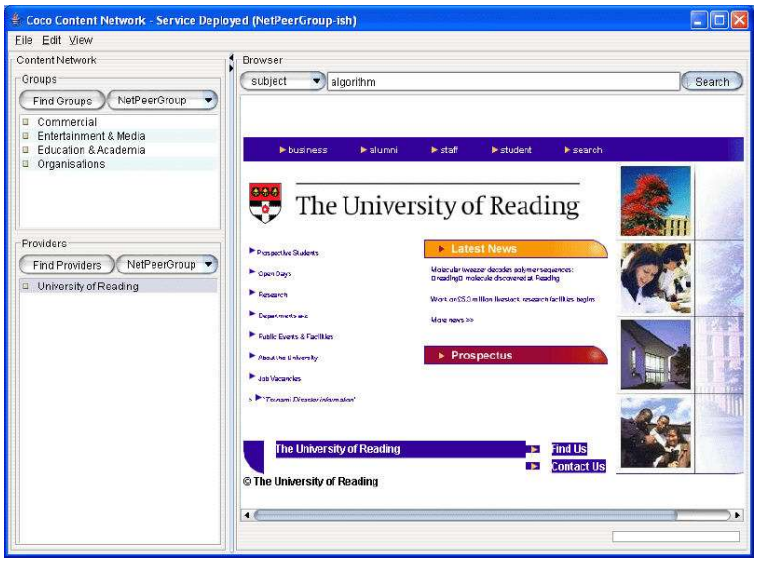

P2P Knowledge Management Application