

EPrints: A Hybrid CRIS/Repository?

Leslie Carr, University of Southampton & EPrints Repository Platform

You must remember this: a CRIS is just a CRIS...
The fundamental things apply as time goes by.
With apologies to Herman Hupfeld.

It is a truth universally acknowledged that a repository collects and manages research papers, data, reports, patents and software (curating many kinds of research outputs for immediate access and long-term preservation) but that it is *just one* of the systems that a CRIS has to interact with. Specialised research databases are used not only for research outputs, but for human resources, project management, finance, grant funding and research expertise. A CRIS offers a comprehensive overview of an institution's research activities, pulling together information from all of these research-relevant databases to improve the administrative processes of an institution.



EPrints, as a repository, supports the CERIF standard to allow it to communicate with CRIS systems, exchanging relevant information about research publications, to provide a comprehensive picture of the research aspect of an institution's business activities.

However, in some universities a repository also provides some degree of research management reporting – publications by research group and topic, according to citation impact and other criteria. This uses information from the HR department (organizational structure in terms of research group affiliation), requiring it to be incorporated into the repository. *In doing so, the repository starts to act (in a small and incomplete way) like a CRIS.*

Furthermore, information that has previously been strictly administrative in nature (for example, grant administration) and hence subject to administrative processes and controls, is increasingly becoming relevant to the researcher as an end-user. Not only are funded project figures, titles and dates required from a grant database for CVs, but they are part of the research story-telling that underpins both impact reporting and marketing that researchers themselves have to undertake.

These new tasks create further requirements of the data collected about grants: as well as the basic facts and figures, descriptions, pictures (logos!) and press-releases are required for presentations, reports and websites. Mainly run behind the scenes in administrative offices, grant databases are not configured for descriptive, narrative and pictorial information. In fact, such information has previously been relegated to an *ad-hoc* position on departmental websites (updated if the researcher has time), but is now

becoming increasingly valuable information.

The JISC Open Impact project is developing a repository of High Impact research in Computer Science, run by the UK's Learned Society (BCS). It helps researchers collect and collate information about their projects, research outputs, events, teams and individuals to form a coherent description of a decade or more of activity.

Whereas grants databases are usually run as B-B services (mediating information between funding bodies and research institutions), repositories have typically adopted a B-C role, mediating research information between an institution and the thousands of grass-roots researchers who work in it (as well as the research community outside it). *Therefore it does not seem unusual for a repository to offer other researcher-serving information services.*

In a recent workshop run by the JISC *Readiness for REF* project¹, a straw poll of the attendees indicated that they would favour their repositories taking on information management roles more usually associated with a CRIS (specifically information about projects and funding organisations).

The Hybrid Repository

As well as accommodating the CERIF data model for interchange, EPrints is extending its internal data models to accommodate not just “publications” but “projects” and “organisations” as well. Such CERIFization requires a repository to have many separate datasets, all linked together via explicit relationships; projects and funding organisations that were just names typed into the paper’s metadata record are now objects in their own right linked to that metadata record.

Formate assay in body fluids: application in methanol poisoning.
Makar, A B and McMartin, K E and Palese, M and Tephly, T R (1975) *Formate assay in body fluids: application in methanol poisoning*. Biochemical medicine, 13 (2), pp. 117-26. ISSN 0006-2944

PDF - Published Version
[Download \(1211Kb\)](#) | [Preview](#)

Abstract
A sensitive and specific assay for formic acid in body fluids has been developed. The assay is based on the reaction of formate with bacterial formate dehydrogenase coupled to a diaphorase-catalyzed reduction of the nonfluorescent dye resazurin to the fluorescent substance resorufin. Formate concentrations of 0.5 µg/ml of reaction mixture can be accurately measured. Small volumes of body fluids can be used for the analysis of both methanol and formate. The procedure described is simple and allows for the economical and rapid determination of formate. It can be used in studies concerned with the disposition of formate, as it relates to methanol metabolism. Also, it may be useful in studies where formate might exist as a metabolic intermediate of certain drugs or chemicals.

Projects
[1181 Performance of Nonlinear Controllers](#)
[14281 High Performance and Robust Systems](#)

Item Type: Article

Performance of Nonlinear Controllers
We are concerned with controlling uncertain nonlinear systems via adaptive techniques. We are particularly interested in evaluating the performance of adaptive controllers, and comparing them against eg. robust designs. This has involved developing techniques which allow lower and upper bound estimates to be made of eg. LQ performance. Uniquely in adaptive control theory, we are accounting for the control effort in the cost. Our original focus of attention is in controlling systems containing significant static functional uncertainties (as opposed to the more standard set-up where the uncertainties considered are parametric). The approach considered involves the introduction of function approximators for on-line modeling of the static uncertainties. We have developed a framework for describing the classes of uncertainties for which such controls are valid - contrasting to the robust theory, uncertainties are measured by spatial L2 weighted norms contrasting to usual static uncertainty models which are formed by pointwise bounds. The robustness performance arose as we tried to quantify which function approximator structures are "best". This wonderfully ill-posed question is very rich. Currently we have been able to exhibit some structures whose associated LQ performance scales badly as the resolution of the approximator is increased, and also to construct controllers and approximator structures which scale well. Unfortunately, the class of approximator based controllers scale poorly includes some of the standard designs. Our focus of attention is now on using the framework developed for addressing the above question to compare the performances of more classical designs.

Type	Name	ID
Principal Investigator	French, Mark	maf@ecs.soton.ac.uk
Co-Investigator	Harris, Chris	ch@ecs.soton.ac.uk
Co-Investigator	Rogers, E	ecr@ecs.soton.ac.uk

Grant Reference GR/R27594/01
Funders [D11 Engineering and Physical Sciences Research Council](#)
Commencement Date 03 April 2001
Completion Date 31 May 2004
URI <http://www.iss.ecs.soton.ac.uk/control/projects/adaptive/adaptive.htm>

Hence, data about projects, publishers, funders etc can be managed in EPrints just like publications; they can be edited, displayed, searched, exported. Because a repository is designed for engagement with end users, the user interface and capabilities may be better (richer, easier) than those associated with an administrative database, and so it may be easier for users to keep the repository up-to-date than the administrative master.

Questions

What should the relationship be between a repository and a CRIS? Or the repository and the CRIS component systems? The kinds of research reporting that is being undertaken is much richer than previously: does the CRIS model mediating between independent systems still work?

¹ <http://www.kcl.ac.uk/iss/cerch/projects/portfolio/r4r.html>