Case Study on a Futuristic University
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A possible view of the future of recordkeeping systems

While reading the case study below think about the following questions:

1. How many recordkeeping systems do you encounter in this case study?
2. How many recordkeeping systems may exist outside of Evie Dance's control?
3. What are the features of the archival/recordkeeping processes?
4. What is the records management system?
5. What is the archival system?
6. Who 'owns' the system/s?
7. What type of functionality do they support?
8. Will the same system used for paper records be able to control electronic records in the future?
9. Why would an archival authority (or its fictional future form) enter into any relationships with the University?
10. Who gets what out of such relationships?
11. Is this where we are going?
12. How can organisations move to this position if that is where they want to go?
13. Do they have the skills to combine the business process, records, and technological knowledge?
14. What alternative scenarios can you devise?

Case Study - Dubbo University

Let me transport you through time and space to 2012 and to Dubbo University. Dubbo University is a Virtual University. It was established in 1998 as a networked organisation. It conducts all of its business electronically. Students and staff are geographically dispersed across Australia and across continents. As a matter of economic convenience, the site of the major computing equipment and attendant staff is Dubbo - the land was cheap, labour plentiful and the climate seemed suited to large machine installations. The University exists through its electronic connections. It has no campus as we know it today. Teaching is done electronically through PC interfaces audiovisually, graphically and textually connecting lecturers and students and resource centres.

When University staff sign on, they are sent standard desktop computing equipment running Gates 2012, loaded with the latest versions of email, internet browser, word processing, spreadsheet, presentation and database software. They are instantly networked via the international communications infrastructure to Dubbo's systems. All internal and external communications are done by email or voicemail. Where paper does hit any part of the system, it
is converted to digital form using part of the desktop suite before it is actioned. Nothing can be actioned in paper form. Sophisticated information systems exist for financial, personnel, facilities and student management functions, and these systems are available to all staff and contractors throughout the University that have jobs involving interaction with such systems.

The University’s public face is provided through its master Internet web page, organised according to functions and activities. (For Dubbo, organisational structure is far too fluid to have any validity as a way of structuring access to information). The web interface is designed so that enquirers can 'drill down' through screens using hypertext links to the particular application they need to use or to the information they seek. External users, such as students, can activate applications such as interactive voice response for enrolment and checking results. University staff access the systems through Dubbo's Intranet, again organised by functions and activities. The log-on procedure automatically links the prospective user with their access status and user permissions appropriate to their job. This then automatically tailors a view of the systems suited to the particular functions or activities that the individual user will need to use or are permitted to see.

An academic may see a different view of systems and information than an administrator in the Faculty Office. Those views and access to applications is different again from that provided to the University Secretariat. Each view is tailored to present a menu of the business activities that the individual will need to perform their specific job.

The Intranet also contains of course all the University’s formal policies and procedures. This is a much used resource, for in a distributed environment everyone has to access and use agreed and clear ways of doing business. Relevant policies can be called down by staff onto their screen whenever undertaking a particular activity.

Dubbo has got some legacy systems which still work and are being maintained in conjunction with new developments. Production of academic transcripts, for example, was a module of the first student administration systems established in the 1990s and this module is still in use. Depending on the date of the specific enquiry, production of transcripts may involve the use of data structures originating in any one of three systems which have been implemented for student administration over the last 12 years. Systems applications are developed rapidly to keep Dubbo's business viable.

Dubbo plans for systems obsolescence using a rule of thumb that systems will only remain fully viable for 4 years. It is an early adopter of technology, sometimes existing out there on the bleeding edge. But this strategy, while having some spectacular and expensive failures, has also paid off with systems which are being sold to and emulated by its competitors.

Let us assume that all these systems are secure, implemented and working. We can also assume that this is a far fetched, but recognisable statement of where some universities will be aiming.

Where is recordkeeping in all this plethora of technology? Does Dubbo have a Records Manager? Yes, it has a Records Manager - Evie Dance who lives in Sydney. She's formally and virtually linked to the information systems development team. Evie has a small staff geographically distributed, living in New York (USA), Charleville (central Qld) and Bunbury (West Aust). The Records Management staff have responsibility for ensuring that essential evidence of Dubbo's business dealings exist and are accessible (over time and over space).
The Records staff have established recordkeeping policies, endorsed at the virtual University Council meeting of July 2001. These policies are a nested suite which define the relationships of recordkeeping to the University; establish broad layers of recordkeeping responsibility and empower the Records Manager to liaise between systems designers and the users of the system - the people actually doing the University’s work. The policies aim to integrate records issues into every new system, and ensure adequate resources to maintain the reliability and authenticity of all records over time.

Dubbo's record system acts like a floor - things fall onto it and are absorbed into it; it supports every activity of the University: everyone knows it is there and that it has to be maintained; everyone knows their responsibilities in relation to its upkeep. Yet it doesn't act as a brake on innovative new ways of doing things. The records system is linked via a variety of interfaces into all the information systems of the University - specific applications like financial management and the communications systems like email. The records system itself acts as a mechanism to capture the records with all the contextual data.

On first being created by a software application, a record is tagged with lots of data drawn from the application and the context of the systems event which created the record. The data includes the details we would traditionally call registration details: who created it (name and position), date of creation, name of the document, details of the system it came from, what software was in use and what version of the software (basically the registration details outlined in AS ISO 15489.2, clause 4.3.3). At the same time, the system captures details relating to the business function and activity that the record comes from. (These are captured from the functional analysis data which sits in authority tables within the records system.) The system automatically applies disposal dates to the records in accordance with the business function and activity and the rules on records creation within the business application. The disposal dates are also drawn from authority tables linked to the functional analysis.

This tagging and linking of the record content with its context is the primary task of the records system. Over the years it has done this in many ways through security mechanisms such as cross hashing in a relational database environment. Now the system operates in object-oriented paradigms and the record content is encapsulated along with its contextual data as one object within the system. Each record object now carries with it sufficient data to enable it to be moved between records systems.

Other tasks performed by the records system include monitoring the record objects to check when migration to a new system is needed. A rule has been adopted that records will be migrated every second generation of proprietary software and every generation of custom-built application. The records system monitors which records are due for destruction and reports on these to the Records Manager. It monitors use of each record, adding further data to each object to note who has used records and when. It ensures that when a record is removed from the system for subsequent use such as additions and amendments, its return is logged as a separate transaction, creating a new record - going through the same registration process as defined above.

Additional functionality is needed to maintain the authority tables supporting the accurate functioning of the system. These authority tables have developed over time and at present include dates and position/staff matrixes which map the responsibility of the particular records creator against the record. Another table linked to the position/staff establishes access permissions for particular records. It also monitors users from outside the University who wish
to access the records and works out whether they must pay for access; it includes tables for maintaining time-bound versions of the functional analysis, tracing for example that tenure was a concept relating to employment conditions in the 1990s. A further knowledge base relating to legislative mandates, regulations requiring records, organisational decisions on recordkeeping etc are also linked to the business functions and activities table, providing verification that the organisation knows its recordkeeping obligations.

That in essence is what the records system does. Obviously there has been a lot of work done by Evie Dance and her staff to complete the authority tables which act as the business rules for the running and use of system. Keeping them up to date is also a continuing responsibility. These things have been all linked, and the records system is operational, but the job does not stop there.

Probably the most time consuming and resource intensive part of the activities of Evie and her staff is to work with the business analysts and the business managers responsible for each business activity to define what records need to be created for each activity. In each activity, the risk of not creating records is measured against the organisational and business needs. Once the appropriate balance has been worked out with the business manager and systems analyst, the recordkeeper is involved in the design of mechanisms to capture the record.

A variety of mechanisms have been worked out - in some business activities, such as conduct of research on humans or animals, every transaction which occurs must create a record. Here the records system is linked directly to the research administration system and automatically captures a record on creation. In others, such as development of research grants, a workflow structure has been designed for people wishing to develop and submit grant applications. This workflow technology integrates various applications used to develop the grant, eg. word processing to develop the proposal, spreadsheets to develop a budget, email to forward the application across various layers of the organisation for agreement and approval. In this business activity, various triggers are defined which ensure that at particular points of the process, records are captured into the records system.

You might note in this that the records system doesn't contain the searching mechanisms commonly associated with records systems today. Searching functions are provided by Dubbo's currently endorsed information retrieval application package, Cyclops. Currently Cyclops is used both to search the Internet, and the Intranet. Users do not need to have a large array of software applications on their PC’s to be able to find and view the records. Cyclops has a generic viewer which allows users to view records in up to 150 file formats.