Automating Records Management

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Introduction

This paper will give an outline of an automated current records management programme in an Australian institution, the University of Western Australia. The University Archivist is involved in the organisation and care of both the archival records, and the current records management programme and office, a position which provides an overview of the day to day administrative needs placed on the records as well as the historical expectations held by administrators and researchers.

Recent literature[1] on automation of current and non-current records management has made much of the fact that traditionally, archival finding aids have been provenance rather than subject-based. This has led to an underuse of archival material, as the user must know something about the institution which created the records before he/she can access them. Generally it appears that more consideration is given to user education than user needs, when compiling guides.[2] Automation is seen as a means of overcoming this problem, but the archivist is warned that there is still a need for clarity of approach and logic of procedure. It is currently felt that emphasis is being given to automation more in the administrative control of archives (eg. details relating to location of material) than the intellectual control, although Roper[3] in the early 1970's listed several institutions which combined administrative and intellectual control in their current records management programme. As well as performing these tasks previously effected manually, the computerised system can produce subject specified finding aids from the original data base. In addition, it can print out various descriptions in various orders, and can allow a user to search for documents on a specified subject.[4]

This study relates to one record group in the custody of the Archives — that of the Registrar's Office. However, there is no reason why the automated current records management system could not be applied to all administrative Faculties/Departments within the University, although in order to link archival material with the central archives, it would be necessary to have an interactive computer system between central administration and the Faculty/Department.

During 1979 and 1980 some four thousand archival administrative files were reorganised according to their original order. A 570 page listing of these records was produced, arranged according to provenance, but it was decided that, in addition, a subject index was necessary as the original classification system of the file series was unintelligible. A computer program was written to produce a keyword index to the series which numbered about 3000 files and dated from c1913 to c1960. Keyword, file title, and the first and last dates of each file were indexed. As the file titles were often uninformative, the subject content of each file was reviewed and indexed by selected major keywords which best described the content of the file. The data was then punched on cards and an alpha index by keyword produced. Though this approach was necessarily subjective it formed a useful pilot project for the current records management system which was later instituted.

In 1982 a review of the current records management system in the Central Administration was carried out by the University Archivist. This system includes the Registrar's Office, the Vice-Chancellory, (including the Staffing Office) the Property Services Office, and the Bursar's Office (now Accounting Services). Cook's[5] description of the archivist being 'the essential finding guide to the material' could be applied equally validly to the Records Manager in this case. The filing system had been in operation for twenty years and the then records manager had been in charge of the office for half that period. The classification system was simply an add-on running number system, combined with a broad subject indexing system. The series contained many 'catch all' files and files with imprecise titles so that some correspondence could be copied onto as many as six files, due to the indecision as to where it should be classified. Local knowledge was therefore an important factor in retrieving the information.

A Records Review Working Party was set up in July 1982 to consider the findings of the Review, and to formulate and report to the Registrar on ways of improving the system. The Working Party constituted the University Archivist, the Records Officer, and representatives of the main sections or divisions using the system, such as the Academic Secretariat, the Staffing Office, etc. The Working Party's major recommendations included the institution of a meaningful number classification system and a keyword indexing system to replace the old system.

The Working Party's recommendations were adopted, and several operational systems throughout Australia were examined and it was decided to implement a computerised KWOC (keyword out of Context) indexing system combined with an hierarchical meaningful number classification system. Of the several computer software packages examined the Datatrieve package, on the then new Administration computer, a VAX II/70, seemed the most appropriate.

The project was allocated its own budget, and the development of the

computerised programme was contracted to the Western Australian Regional Computing Centre. During this period the University Archivist was responsible for the compilation of the *Classification Manual* (Appendix B) and the accompanying *Thesaurus.* (Appendix B.) This was based on a model developed by the University of Sydney which was instituted only two years previously.

It is at this stage of the development of any such system that there should be the greatest interaction with general administrative staff particularly the expert in each area. As others have discovered,[6] the introduction of office automation is likely to be a traumatic experience for both management and staff; resentment is easily aroused if there is not sufficient consultation with middle management regarding the structuring of a system. Input from practitioners is necessary when planning the intellectual control needed for such a system if it is to be successful in operation.

The basic requirements then were to devise a system to serve both the administrative staff and the Records Office. This meant that from the users' view point the prime requirements were the facility to access any file by both subject and location. The main Records Office requirements were obvious — the staff needed to find the right file in as little time as possible; refinements and enhancements were developed as planning and implementation proceeded.

Features of the System

Data Storage

The system comprises thirteen domains (or files) of which five are back-up domains. The main data collections are:

Master domain

Closed domain

Archive domain

History domain (list of all files destroyed)

Keyword domain (List of keywords in use)

Tracking domain (records all files on loan)

'Bring-forwards' requests file

Domain of files borrowed in any given day

'Unfiled' or 'Dead' filing domain

Any of these Domains can be edited via a VDU, but there are three levels of security imposed, so that only the Records Officer and Supervisor can amend the Master Domain, for instance, whilst a more junior staff member can alter the Tracking Domain.

Master Domain

The Master Domain contains information on the

- file number, (ten digits)
- volume number, (two digits)
- file title, (structured text description up to 150 characters. Keywords are separated by asterisks * so that the title gives an indication of how many times each item is indexed, and under what keyword).
- covering dates (12 digits)
- retention period (two digits).

A hard copy listing can be produced, sorted either numerically by file number or alphabetically by Keyword (Figure 1).

Archive Domain

Details of this file are outlined below under Archival Features.

Tracking Domain

Tracking of the location of the files is done on-line. This is integrated with the 'Bring-forward' (or 'call-up') Domain and the 'Unfiled' or 'Dead' filing Domain. When a file is returned it is flagged if either a 'bring forward' has been placed on the file or if there are some non-current 'unfiled' documents to be filed. A hard copy numerical listing of all files borrowed is produced daily. (Figure 2)

As a result of the integration of these systems the 'unfiled' filing, which hitherto has accummulated to unmanageable proportion, especially during the busy enrolment period, is now maintained at more controllable levels.

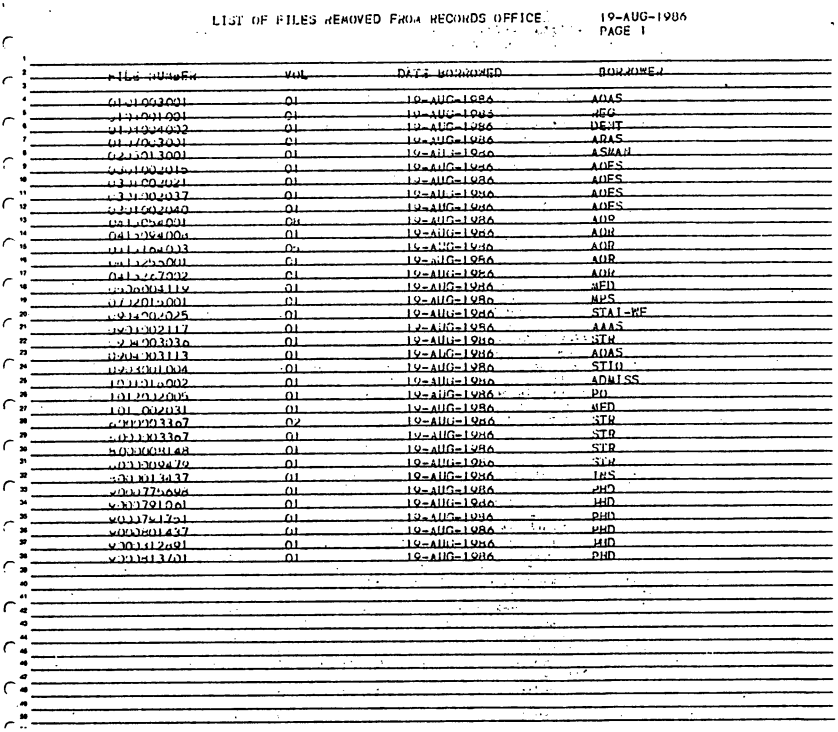
Archival Features

From the archivist's point of view it was important to structure the classification system with archival requirements in mind. Policy documents were separated from housekeeping documents from the outset, thus eliminating the need for much stripping at a later date. In order to conserve computer time, a 'Closed' Domain was established, into which details of back volumes of any file are transferred automatically when a new file is opened. Thus the master file contains only the details of the *current* volume of any file and less time is spent answering queries regarding current files. The 'Closed' Domain is a record of semi-current material which is to be either retained permanently or culled after a specified period. When files which are to be retained permanently are culled from the 'Closed' Domain they are transferred to the 'Archive' Domain; details of files which are destroyed after culling are transferred to the 'History' Domain.

FILE NUMBER	VOL	CREATION DATE	CLOSE DATE	ST	DESCRIPTORS
0415D54031	08	3-JUL-1985			RESEARCH GRANTS*NIH&MRC*POLICY AND PROCEDURES
0415D54032	17	6-MAR-1985			RESEARCH GRANTS*NIH&MRC*APPLICATIONS
0415D54033	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*ANATOMY AND HUMAN BIOLOGY*JONES*DYSON*SYNAPTIC JUNCTIONS RESPONSE TO STIMULATION
0415D54034	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*CLINICAL BIOCHEMISTRY*KEOGH*TREATMENT OF CRYPTORCHIDISM USING PULSATILE GONADOTROPHIN HORMONE
0415D54035	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*BARTHOLOMAEUS*REED*MODEL FOR AUTOANTIGEN-SPECIFIC SUPPRESSOR CELLS
0415D54036	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*BEILIN*VANDONGEN*STUDIES OF DIETARY COMPONENTS WHICH REDUCE BLOOD PRESSURE IN MAN
0415D54037	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*NASTAGLIA*EYE MOVEMENTS IN MAN
0415D54038	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*NASTAGLIA*CARROLL*OPTIC NEUROPATHY
0415D54039	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*MHYS HEARN*STANDARDS IN NURSING HOMES
0415D54040	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MICROBIOLOGY*SHELLAM*INNATE RESISTANCE TO VIRUS INFECTIONS
0415D54041	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MICROBIOLOGY*TURNER*IGE SYNTHESIS IN VITRO
0415D54042	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MICROBIOLOGY*TURNER*HOLT*IGE SYNTHESIS IN LYMPHOID CELLS
0415D54043	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PATHOLOGY*GROUNDS*WALTERS*MUSCLE REGENERATION
0415D54044	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PATHOLOGY*WALTERS*ALZHEIMERS DISEASE
0415D54045	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PATHOLOGY*PAPADIMITRIOU*WALTERS*MACROPHAGES AND MACROPHAGE POLYKARYA IN PATHOLOGICAL REACTIONS
0415D54046	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PHYSIOLOGY*SELLICK*JOHNSTONE*SENSORY-NEURAL HEARING LOSS
0415D54047	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PSYCHOLOGY*BEAZLEY*DUNLOP*RETINAL AND BRAIN CHANGES DURING VISUAL STREAK FORMATION
0415D54048	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PSYCHOLOGY*BURN*ROSS*CROSS ORIENTATION CORTICAL INHIBITION
0415D54049	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PSYCHOLOGY*MARTIN*CHRONIC HEADACHES
0415D54050	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PSYCHOLOGY*MARTIN*CHRONIC HEADACHE AND DEPRESSION
0415D54051	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*SURGERY*ALDER*CONSTABLE*RETINAL DISEASE
0415D54052	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*SURGERY*NADE*NEMBOLD*NEUROPHYSIOLOGY OF KNEE JOINT
0415D54053	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*SURGERY*VAN BOCKXMEER*CONSTABLE*BIOCHEMISTRY OF VITREOUS SCAR FORMATION
0415D54054	01	25-OCT-1982			RESEARCH GRANTS*NHMRC*PHYSIOLOGY*BAKER*MORGAN*IRON CHELATORS IN TREATMENT OF THALASSEMIA
0415D54055	01	25-OCT-1982			RESEARCH GRANTS*NHMRC*MEDICINE*BEILIN*VANDONGEN*INFLUENCE OF ALCOHOL AND PERSONALITY ON BLOOD PRESSURE
0415D54056	01	25-OCT-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*CRANFURD*GROVE*ANTITHROMBOTIC PROPERTIES OF HELMINTHS
0415D54057	01	25-OCT-1982			RESEARCH GRANTS*NIH&MRC*CLINICAL BIOCHEMISTRY*KEOGH*GONADOTROPHIN IN RELEASING HORMONE
0415D54058	01	25-OCT-1982			RESEARCH GRANTS*NIH&MRC*CLINICAL BIOCHEMISTRY*GARCIA-WEBB*INTRACELLULAR INSULIN ACTION
0415D54059	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*GROVE*INTESTINAL NEMATODE INFECTIONS
0415D54060	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*BIOCHEMISTRY*HARTMAN*BREAST MILK AND SALIVA DURING MENSTRUAL CYCLE
0415D54061	01	29-OCT-1982			RESEARCH GRANTS*NHMRC*PHYSIOLOGY*JOHNSTONE*ROSS*COMPARATIVE PHYSIOLOGY OF HEARING AND VISION
0415D54062	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PATHOLOGY*LAMB*SENSORY PROJECTIONS IN XENOPUS TADPOLES
0415D54063	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PATHOLOGY*LAMB*MOTONEURON SPECIFICATION BY PRIMORDIUM DURING OOTOGENY
0415D54064	01	29-OCT-1982			RESEARCH GRANTS*NH&MRC*PHYSIOLOGY*LASZLO*RAIRSTON*DIAGNOSTIC PERCEPTUAL-MOTOR TEST
0415D54065	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*MICROBIOLOGY*MACKENZIE*INFLUENZA IN BIRDS AND PIGS
0415D54066	01	29-OCT-1982			RESEARCH GRANTS*NIH&MRC*PHYSIOLOGY*MORGAN*DIETARY INFLUENCE IN THE PANCREAS
0415D54067	01	30-NOV-1982			RESEARCH GRANTS*NIH&MRC*PHYSIOLOGY*ROSS*HOBBS*RESPIRATORY DISEASES CROCIDOLITE ASBESTOS
0415D54068	01	30-NOV-1982			RESEARCH GRANTS*NIH&MRC*PHARMACOLOGY*PATERSON*GOLDIE*CATECHOLAMINE UPTAKE IN LUNG
0415D54069	01	30-NOV-1982			RESEARCH GRANTS*NIH&MRC*MEDICINE*MHYS HEARN*ACADIAN HOME CARE SERVICE FOR DISABLED AGED
0415D54070	01	30-NOV-1982			RESEARCH GRANTS*NH&MRC*PHYSIOLOGY*ROBERTSON*JOHNSTONE*PHYSIOLOGY OF HEARING
0415D54071	01	30-NOV-1982			RESEARCH GRANTS*NH&MRC*PSYCHOLOGY*ROSS*JOHNSTONE*TESTS OF VISUAL CAPACITY

Figure 1

Figure 2



LIST OF FILES REMOVED FROM RECORDS OFFICE 19-AUG-1986
PAGE 1

FILE NUMBER	VOL	DATE BORROWED	BORROWER
0[illegible]3001	01	19-AUG-1986	ADAS
0[illegible]001	01	19-AUG-1986	AEG
0[illegible]032	01	19-AUG-1986	DEST
0[illegible]031	01	19-AUG-1986	ADAS
0[illegible]3001	01	19-AUG-1986	ASWAN
0[illegible]3001	01	19-AUG-1986	ADES
0[illegible]015	01	19-AUG-1986	ADES
0[illegible]021	01	19-AUG-1986	ADES
0[illegible]037	01	19-AUG-1986	ADES
0[illegible]040	01	19-AUG-1986	ADES
0[illegible]001	01	19-AUG-1986	ADR
0[illegible]003	01	19-AUG-1986	ADR
0[illegible]003	01	19-AUG-1986	ADR
0[illegible]001	01	19-AUG-1986	ADR
0[illegible]002	01	19-AUG-1986	ADR
0[illegible]119	01	19-AUG-1986	MED
0[illegible]001	01	19-AUG-1986	MPS
0[illegible]025	01	19-AUG-1986	STAT-HE
0[illegible]117	01	19-AUG-1986	AAAS
0[illegible]036	01	19-AUG-1986	STR
0[illegible]113	01	19-AUG-1986	ADAS
0[illegible]004	01	19-AUG-1986	STIO
0[illegible]002	01	19-AUG-1986	ADWISS
0[illegible]005	01	19-AUG-1986	PD
0[illegible]031	01	19-AUG-1986	MED
0[illegible]3a7	02	19-AUG-1986	STR
0[illegible]33a7	01	19-AUG-1986	STR
0[illegible]048	01	19-AUG-1986	STR
0[illegible]079	01	19-AUG-1986	STR
0[illegible]037	01	19-AUG-1986	INS
0[illegible]a9a	01	19-AUG-1986	PHD
0[illegible]041	01	19-AUG-1986	PHD
0[illegible]7d1	01	19-AUG-1986	PHD
0[illegible]437	01	19-AUG-1986	PHD
0[illegible]a91	01	19-AUG-1986	PHD
0[illegible]7d1	01	19-AUG-1986	PHD

Information held on each physical file item in the Archive Domain includes:

— file number (ten digit number)

— volume number (up to two digit number)

— file title (structured text description up to 150 characters. Keywords are separated by asterisks * so that the title gives an indication of how many times each item is indexed, and under what keyword.)

— opening and closing date (first and last date — twelve digits)

— retention period (two digit number)

As with the current 'Master' Domain, the 'Archive' Domain can be accessed (via a VDU) administratively by file number, by classification area so that a listing of all material in any classification area can be produced, or by subject/keyword. A printed listing of the 'Archive' Domain can be produced at any time.

Retention and Disposal

Files are designated Retain Permanently, Cull 'X' years or Review 'X' years. Based on these periods, a 'Cull' or 'Review' list can be compiled from the 'Closed' Domain at any time, using the 'close' date, or from the 'Master' Domain using the file 'opening' date and adding the retention period plus two years. This ensures that files which have been opened and used only for a short period are culled from the Master file regularly.

Classification System

One of the main differences between this and other indexing systems currently being advocated in Australia is the fact that it is based on a structured classification system. Information has been divided into ten categories (or primary headings) with the capacity to develop an unlimited number of keywords and descriptors defining more explicitly concepts within those categories. A *Classification Manual For General Files* has been compiled for use by Records Office staff. (See Appendix A). In addition, a *Thesaurus* of preferred terms enables the classifier to access the *Classification Manual* at the required subject. (See Appendix B)

Although other classification models were examined, it was decided to implement a meaningful number classification system to three levels; that is, category, keyword, and first descriptors are encoded according to the hierarchical classification system. (See Appendix C for example.) This replaced the old add-on four digit numbering system. As the old files had been 'catch-all' files very few could simply be top-numbered into the new system; in most cases more than one file was opened to replace an old system file. An important advantage of a meaningful classification system is that as like material is held together, facilitating both retrieval by Records Office staff (when a subset of material is required, it is easier to pull from the same area than throughout the system) and reference and research by Administrative staff.

In some cases many files replaced old files. For example, in the case of Research Grant files, previously one file was opened for each University department within each granting body; in the new series each project has been allocated a file so that the full history of any grant can be collated at a glance. This feature is particularly valuable in the case of the larger granting bodies, for example, National Health and Medical Research Council (NH&MRC) or Australian Research Grants Scheme (ARGS), who allocate a number of grants to specified University departments.

The files are colour-coded at category level only, but it is proposed to introduce full colour-coding (perhaps tied to bar-coding) of general files at a later date.

KWOC Index

An up-to-date on line KWOC (Keyword Out of Context) index is

Figure 3

KEYWORD OUT OF CONTEXT LISTING OF RECORDS DEPARTMENT FILES

17-Apr-1986
Page 462

ABSTRACTED TERM	ALL KEYWORDS AND TERMS IN THIS FILE	VOL	FILE NUMBER
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*ASHMAN*IMMUNOBIOLOGY OF FUNGAL INFECTION	1	0415054072
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*CHANG*GENETICS OF TISSUE INVASIVENESS IN AEROMONAS HYDROPHILA	1	0415054052
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*MACKENZIE*BIOLOGICAL AND MOLECULAR ANALYSIS OF MURRAY VALLEY ENCEPHALITIS VIRUS	1	0415054061
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*MACKENZIE*INFLUENZA IN BIRDS AND PIGS	1	0415054035
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*MACKENZIE*ISOLATION AND ECOLOGY OF AVIAN INFLUENZA IN WILD BIRDS	1	0415054056
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*MCKENZIE*PIXLEY*KULSKI*PAPILLOMA VIRUS AND ITS ASSOCIATION WITH CERVICAL	1	0415054087
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*SHELLAM*CMV INFECTION IN MICE	1	0415054044
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*SHELLAM*GENETICALLY DETERMINED RESISTANCE TO HERPES VIRUSES IN MICE AND MEN	1	0415054097
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*SHELLAM*INNATE RESISTANCE TO VIRUS INFECTIONS	1	0415054010
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*SHELLAM*INTERACTIONS BETWEEN CMV AND CELLS OF IMMUNE SYSTEM	1	0415054086
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*STANLEY*LIEHNE*ARBOVIRUS ECOLOGY IN ENCEPHALITIS	1	0415054047
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*STANLEY*PIXLEY*VIRAL AETICLOGY OF SQUAMOUS CELL CARCINOMA OF THE CERVIX	1	0415054046
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*TURNER HOLT*IGE SYNTHESIS IN LYMPHOID CELLS	1	0415054012
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*MICROBIOLOGY*TURNER*IGE SYNTHESIS IN VITRO	1	0415054011
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*OBSTETRICS AND GYNAECOLOGY*HAHNEL*AFFINITY LABELLING OF ESTROGEN RECEPTOR	1	0415054067
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*OBSTETRICS AND GYNAECOLOGY*HAHNEL*RATAJCZAK*AFFINITY ALKYLATION OF ESTROGEN RECEPTOR	1	0415054079
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*GROUNDS*WALTERS*MUSCLE REGENERATION	1	0415054013
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*GROUNDS*WALTERS*PRECURSOR CELL MOVEMENT AND MUSCLE REGENERATION AND GROWTH	1	0415054077
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*LAING*LAMB*DETERMINATION OF MOTONEURON TYPE IN DEVELOPING EMBRYO	1	0415054055
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*LAMB*CENTRAL CONTROL OF MOTONEURON DEATH IN NEUROGENESIS	1	0415054082
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*LAMB*MOTONEURON SPECIFICATION BY PRIMORDIUM DURING ONTOGENY	1	0415054033
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*LAMB*SENSORY PROJECTIONS IN XENOPUS TADPOLES	1	0415054032
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*MASTERS*ALZHEIMER'S DISEASE	1	0415054014
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*MASTERS*ANYLOID AND INTERMEDIATE FILAMENTS IN ALZHEIMERS AND CREUTZFELDT-JAKOB DISEASE	1	0415054057
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*MASTERS*ULTRACENTRIFUGE FOR NEUROVIROLOGY AND NEUROCHEMISTRY	1	0415054100
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*PAPADIMITRIOU*WALTERS*MACROPHAGES AND MACROPHAGE POLYKARYA IN PATHOLOGICAL REACTIONS	1	0415054015
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PATHOLOGY*WARTON*PAPADIMITRIOU*PATHOGENICITY AND CELL SURFACE PROPERTIES OF TRICHOMONAS VAGINALIS	1	0415054099
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PHARMACOLOGY*HARMAN*MECHANISMS OF TOXICITY IN HEPATOCYTE POISONED BY PARACETANOL	1	0415054053
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PHARMACOLOGY*MINCHIN*ILETT*ROLE OF POLYAMINES IN NORMAL AND NEOPLASTIC LUNG TISSUE	1	0415054094
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PHARMACOLOGY*PATERSON*GOLDIE*CATECHOLAMINE UPTAKE IN LUNG	1	0415054040
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PHARMACOLOGY*PATERSON*GOLDIE*PAPADIMITRIOU*ADRENOCEPTOR FUNCTION IN AIRWAY SMOOTH MUSCLE	1	0415054084
RESEARCH GRANTS	RESEARCH GRANTS*NHLMRC*PHARMACOLOGY*PATERSON*PAPADIMITRIOU*AUTORADIOGRAPHY AND CATECHOLAMINE UPTAKE AND ADRENOCEPTOR BIN	1	0415054059

available for reference by both Records Office Staff and administrative staff. A hard copy of this is printed periodically for users and Records Office reference. (Example page Figure 3.) Each file title is composed of a string of keywords separated by an asterisk (eg RESEARCH GRANTS*NH&MRC*PATHOLOGY*LAMB*SENSORY PROJECTIONS IN XENOPUS TADPOLES). One of the limitations of the software package is that only the first word of each grouping is abstracted in the hard copy KWOC index, whereas an on-line search can be executed under any word, eg. keying in 'GRANTS' or 'XENOPUS' on-line would bring up the file title above, whereas in the hardcopy index the file would appear only under:

— RESEARCH

— NH&MRC

— PATHOLOGY

— LAMB

— SENSORY

Details on new files are added into the index by designated Records Office Staff. The procedure has been designed so that when any batch is added to the Master file, a hard copy listing of files just entered can be produced. This listing is given to all staff to update the hard-copy KWOC index. Back volumes of files are not included in the current KWOC as details of these files are transferred into the 'Closed' Domain. However, a listing of both the 'Closed' and 'Archive' domain can be produced either by keyword or classification or numerically.

Review of the System

Although there are more sophisticated systems available which are capable of creating within a single data-base finding aids which reflect the complete hierarchy to the most detailed level, (that is, at general level of the repository, at intermediate level of series or sub-series, or detailed level of individual document)[7] these are costly and complicated systems, impracticable for adoption by a small institution. The level of sophistication of automated finding aids is by necessity inhibited by the cost factor, and given the size and requirements of the institution, the University of Western Australia's system seems best for an institution the size of this University. Indeed in 1985, Murdoch University seconded the Archivist from the University of Western Australia, and as a consequence of a report on their current records system, that University has decided to adopt the same system for its own use. The system seems to be as efficient as, and has very similar features to, other more costly systems which have been developed within government departments, for instance the Records Management System (RMS) in the Western Australian Public Service Board, which is not based on an hierarchical classification system.

These systems may be more powerful in that they access material at document level but the running costs of such operations are prohibitive in an education institution facing financial cut-backs annually.

There are however, several enhancements or variations which could have been made if a package other than DATATRIEVE had been used. For instance, although it was originally planned to include a procedure to maintain statistical details such as title of officer and date of recent use of each file, this proved too expensive in computer time because of the need for the programme to interact with the master file.

Consequently, although this feature is recognised by experts in the field as one of the great benefits of automation[8] it has been abandoned in this instance. However, it is still possible to identify recent users, as officers' titles are listed on the face sheet as a directive when the file is checked out. In addition, a hard copy of the list of borrowers is produced daily, and this could be checked if a file is lost. The benefits of the automated historical record therefore only become apparent if the file is lost.

On the advice of the computer programmer designing the system a decision was made not to display the procedures in menu form but simply to name each procedure and to educate users to identify these accordingly. Other records management systems examined do use a menu format, as do other computerised systems within the University, so it may have been easier to the uninitiated to have menu prompting. However, for regular users of the system, ie Records Office Staff, it is in fact quicker to use procedures, which was the initial rationale for adopting this format.

Another refinement which is currently under consideration is the institution of a bar-code checking system. The main problems with adopting bar codes are expense, the lack of reliability in available systems, the problem of durability and the fact that bar codes relate to the equivalent of an accession number, rather than the hierarchical classification file number. However, finances permitting, it is a feature worth considering when setting up a new records management system.

These reservations aside, the system has greatly improved the efficiency of the Records Office and eliminated much error. Material is now classified onto more precisely titled files, colour coding has reduced the instance of misfiling, an updated index can be produced at any time, etc.

Archival management is also streamlined and more effective; the archivist has on-line all the details necessary for a basic listings, whereas under the old system it was necessary to handle each file individually to decide, first on a retention period, and second to list the basic details relating to the file such as dates covered by the content. In addition the retention and disposal schedule is automated, thus eliminating the need to check the retention and disposal listing manually for files to be culled. Files which are designated for permanent retention no longer contain a large

proportion of ephemeral or housekeeping details interfiled with policy documents so that there is also the benefit of saving space.

It is planned to enter the now non-current file series (i.e. 'old' series) into the 'Closed' and 'Archive' Domains in the near future, thus completing the process of gaining intellectual control of the Registrar's Office record series.

Conclusion

During the planning stages of this system a considerable amount of time was devoted to trying to discover what other automated record management systems were operative. In 1981/82 a survey of 979 North American tertiary institutions was undertaken covering three main subjects: responsibility for machine readable records and computerised storage media; the use of automation in the intellectual and physical control of holdings by means of internal automated control systems and the use of word-processing and other systems for the preparation of finding aids; and the sharing of holdings information in library or archival data bases and the consideration of archives in the planning of library automation on campus.[9] More recently Michael Cook conducted a survey of automated services in Britain outside the Government Public Record Office. It would be of immense benefit to institutions within Australia contemplating the introduction of an automated records management system, either current or archival, to be able to identify other operative systems and to obtain details of the software. Cook made two recommendations in his report: that a data standard for archival description be developed; and that a comparative study of the suitability of software packages be undertaken.

The first recommendation is currently being researched by Michael Cook, and the International Council on Archives Automation Committee has commenced a review of the latter question.[10]

Professional records managers and archivists in Australia would benefit considerably if our associations undertook a similar survey in this country with a view to producing at least a listing of available software packages; Cook's data standard should also be considered for adoption when published.

In considering this proposal it is worth recalling Lytle's comments at the Symposium 'Archival Automation: Future access to the past':

> Most assuredly agreement seems to crystalize around one basic observation: the central problem in modernizing archives is not really automation *per se;* it is a substantive archival problem in defining purpose and methodology.
>
> It seems evident, therefore, that before effective automation can be accomplished, archivists should re-evaluate their traditional notions about the peculiarities of records from different institutions. A strong tradition in the archival profession emphasizes the institutional affiliation of most

archives with government, churches, universities, and so forth. Hence archivists assume that the records they require are unique and require special solutions to the problems they pose. The documents themselves are indeed unique or they contain unique information, but they may not be so peculiar as records. I am suggesting, therefore, that because of this pervasive assumption in the profession, the problem of fragmentation in records access may be far worse than information scientists suspect. Too much thinking and professional activities are channeled into these specialised groups, as recently enshrined in the SAA PAG (Professional Affinity Group) structure, thus impeding common progress in resolving the large, overall problems faced by all archives.

A similar assumption in the profession is that archives and manuscript collections are different enough to require separate retrieval solutions. This assumption has been questioned for years, most notably by the reflective thinker Theodore Schellenberg, but this idea remains today and surfaces in unexpected ways from time to time. It is nevertheless merely an assumption, the counterpart to the distinction between active and inactive records. There are noteworthy differences, to be sure, but these may not influence retrieval considerations as much as other areas of archival concern.[11]

It is hoped that archivists will heed Lytle's words and that endeavours to produce data standards which can be used internationally will soon be successful.

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Mr Noel Rogers, Records Manager, University of Sydney, for providing documentation and discussing the principles of keyword indexing as applied to University records.

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APPENDIX A

The University of Western Australia. *Classification Manual for General Files.* Registrar's Office Central Records.

1 **Academic Activities**

1.1 *Academic Developments*

1st Descriptor		**2nd Descriptor**	**3rd Descriptor**
Centres of Excellence	001	Policy Submissions Projects Specific Environmental Fluid Dynamics Centre for	
Senate Special Projects	002	List Specific Projects Water Research Centre for Fine Arts NCRRE National Centre for Research on Rural Education University Archivist	(Civil Engineering/ Botany) (Education)
Triennial Submission	003		
UDF (University Development Fund)	004	Gifted and Talented Children's Programme Prehistory Centre for Zoology — Visiting Professor in Science Botany Organic Chemistry Civil Engineering, Geology Zoology — Shark Bay Marine Science Programme	

APPENDIX B

The University of Western Australia. *Thesaurus of General Administrative and Functional Keywords and Descriptors.* Registrar's Office Central Records.

Academic Council Elections

Use ELECTIONS — ACADEMIC COUNCIL

Academic Developments*

New academic ventures funded from Senate, on CTEC or outside sources.

NT CENTRES OF EXCELLENCE
SENATE SPECIAL PROJECTS
TRIENNIAL SUBMISSIONS
UDF (UNI DEVELOPMENT FUND)

Academic Dress

Use CEREMONIES — CEREMONIALS — DRESS — ACADEMIC

Academic Links*

Understandings, whether formal or informal, between departments, faculties, schools, colleges or universities (and their equivalents) for the exchange of information, expertise, staff research workers or students, and for general co-operation or joint research in fields of mutual interest and benefit, with the implicit intention that contact and collaboration should continue.

Do not use for schools liaison.

Use ADMISSION — SCHOOLS LIAISON.

NT WITHIN UNI
WITH OUTSIDE BODIES

Academic Performance

Failure, discontinuation, pass and graduation rates of students.

Use EXAMINATIONS — ACADEMIC PERFORMANCE.

Academic Record

Document issued by a university setting out a student's academic progress and standing.

Use RECORDS — STUDENT — ACADEMIC RECORD. For charge payable, use FEES — ACADEMIC RECORD.

APPENDIX C

Meaningful Number Classification System

Eg. 02/14/003/010

02		=	relates to 'General Administration'
14		=	relates to 'Publications'
003		=	relates to 'Calendar'
010		=	relates to the tenth Calendar file, which may be Standing Orders

FOOTNOTES

1. Michael Cook. 'Applying automated techniques to Archives Administration: a commentary on the present situation and areas of likely progress.' *Journal of Documentation*, Vol 39 No 2, June 1983, pp 73 and 74; Brenda Collins, 'The Computer as a research tool', *Journal of the Society of Archivists*, Vol 7 No 1 April 1982, pp 6-12; Richard H. Lytle. 'Intellectual access to Archives: I Provenance and content indexing methods of subject retrieval.' *American Archivist*, Vol 43, Winter 1980, pp 64-75; and W. Theodore Durr. 'Some thoughts and designs about Archives and automation, 1984.' *American Archivist*, Vol 47 No 3, Summer 1984, pp 271-289.
2. Elsie T. Freeman. 'In the Eye of the Beholder: Archives Administration from the User's point of view.' *American Archivist* Vol 47 No 2, Spring 1984, pp 111-123; and William L. Joyce. 'Archivists and research use'. *American Archivist*, Vol 47 No 2, Spring 1984, pp 124-133.
3. Michael Roper. 'Computer Applications Committee: a consultation document. *Journal of the Society of Archivists*, Vol 5 No 2, October 1974, pp 101-106.
4. Michael Cook. *Archives and the computer*. London, Butterworths, 1980, pp 16-17.
5. Cook. 'Applying automated techniques...' op cit p 82.
6. Peter Smith. 'Co-ordinating Office Automation Technology' reproduced in *Informaa Quarterly*, Vol 1 No 1, 29 Feb 1984, pp 12-13. 'Human Issues (Trauma or Tranquility)'.
7. James E. O'Neill. 'Automation of Archival Finding Aids', in *The Challenge to Archives: Growing responsibilities and Limited Resources*. Proceedings of Tenth ICA Congess on Archives, Second Plenary Session, Bonn 1984, p 6.
8. Cook. 'Applying automated techniques...' op cit. p 79; and N.H. Butler and W.H. Nicholson. 'ARMS — a Computer based records management system developed by Tyne and Wear County Council.' *Journal of the Society of Archivists* Vol 6, No 4, October 1979, pp 200-208.
9. Leon J. Stout and Donald A. Baird. 'Automation in North American College and University Archives: a survey'. *American Archivist*, Vol 47 No 4, Fall 1984, pp 394-404.
10. The International Council on Archives Automation Committee (ICA/CDP) is seeking information from ICA Category A and Category B Members using or planning to use automated systems in archives services. This information will be used to serve as a basis of international comparison in the development of automated applications in archives; to compile a directory of useful applications to serve as a guide for archivists; and to provide the basis for a selection of case studies of computerised finding aids for publication in accordance with the ICA's Medium Term Plan. (Circular from ICA Automation Committee, 21 February 1985).
11. Richard H. Lytle. Comments at the Symposium on Archival Automation: Future access to the past, in Lawrence J. McCrank, editor. *Automating the Archives: Issues and problems in computer applications*. New York, Knowledge Industry Publication Inc. for the American Society for Information Science, 1981, p 242.