

DEVELOPMENTS IN COMPUTERISED DOCUMENTATION SYSTEMS AT THE PUBLIC RECORD OFFICE, VICTORIA

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The Public Record Office of Victoria has adapted the series system developed by Australian Archives as part of a PC based computerisation of its documentation and description systems. Using a modification of DataFlex for key directory information, it has been able to cheaply and effectively achieve many of the benefits of on-line retrieval. This has been combined with a relatively powerful application of Wordperfect word-processing to store and retrieve relatively large volumes of data. The system will be used to produce a comprehensive Summary Guide to Victoria's public records in association with a printed Digest of the Public Records of Victoria which will outline the administrative history of the State.

During the 1970's, with the help of the Australian Archives (AA), the Victorian Public Record Office (PROV) adapted the Commonwealth's series system to its own requirements. PROV was able to describe its records holdings in series format with some success. This enabled PROV to deal with the problems of administrative change, described by Scott and others, and to document its holdings in a way easily adapted to computerisation. It has been an adequate basis for systematic and effective accessioning, repository control, access control, and the development of improved guides and finding aids. The registered series number is the primary code for repository control. Accessions/consignments (transfers) within series are controlled by series numbers (e.g. VPRS 1234/T5: 5th

temporary consignment within series 1234,) shelved more or less at the convenience of the repository, and controlled through a location index.

More recently, the system has been modified to deal more effectively with information about creating agencies and administrative context (provenance) as the basis for improved public finding aids and the application of computerised systems. During the early years of its development, little was done to flesh out the data structure at these levels of description: to show relationships between agencies and between agencies and the organisational structure of government. PROV had neither the time nor the resources to develop, through administrative history research, the data infrastructure showing linkages (both historical and hierarchical) between agencies which was necessary to enable adequate searching of the data base.

The first solution, now abandoned, to this problem was to sort agencies alphabetically on catalogue cards—using agency creating as a main entry heading on each card for each series and making separate cards for each such agency/series relationship identified. This produced a catalogue not unlike a library author catalogue. Occasional added entries for subjects or categories (e.g. schools) were made. The catalogue doubled as an Agency Index, but practically all capacity to analyse and describe the administrative system was lost and with it the ability to refer the user systematically from an agency to related, previous, and subsequent agencies. Valuable research information on the agency registration sheets was, for all practical purposes, unavailable to our users. Moreover, the catalogue was difficult to reproduce outside our main search room and it was unlikely that it could every be issued and kept up to date in published form.

In 1984, it was decided to publish the catalogue to meet an immediate need to describe our holdings, resulting from the requirements laid on PROV, as on all Victorian agencies, of the then recently enacted FOI legislation. For this publication, our first ever List of Holdings, the entries in the catalogue were grouped under broad headings for each responsible Victorian government Ministry or Department then in existence. There were a few additional groupings for special categories such as schools, municipalities, courts, etc. This process was repeated in 1985 when a second edition of the List of Holdings was issued—considerably enhanced by extensive descriptions of agencies and the record series and by an index.

Meanwhile, consideration was being given to the final form (one which could be more easily kept up to date) which a Summary Guide to our holdings would take and to the potential for computerisation. We wished, also, to build into our system some of the data retrieval advantages lost when we adopted alphabetisation and to capitalise on the potential of the series system for describing comprehensively the public records of the State in preference to merely cataloguing PROV's holdings.

Already PROV agency numbers had been used by the Victorian Attorney-General's Department as agency codes for FOI purposes. Agency numbers are also used to identify those public offices which are authorised to set up "in-house" archives as places of deposit under the Public Records Act. We wanted users of our Summary Guide to be referred systematically from the Guide to those places of deposit, outside PROV, in which public records are held.

Finally, we wanted the Guide to comprehensively describe the whole administration of government activity from the beginning of permanent official settlement in 1836. This would enable us to "report" on the state of the archives as a whole, not just describe (catalogue) our holdings. It would provide users with a consistent, comprehensive overview of the totality of the State's public records—not the confusing and piecemeal picture which a catalogue of PROV's holdings necessarily presents. This approach—which we call the "digest" approach—permits us to document our holdings by reference to the overall picture of government administration, ticking off the vacant boxes in a comprehensive classification scheme as records come to us instead of presenting an incomplete picture based solely on what has actually been transferred.

For reasons both practical and theoretical, PROV has had to modify the series system it inherited from AA and it is this modified system which has now been adapted onto a computerised system we call "ARCHIE" (it doesn't stand for anything, we just like it). It seemed unlikely that we would ever be able to provide the full context analysis as in the classic series system model. The systematic linking of agencies by tracing (at the agency level) the succession of functions through time and the hierarchy of relationships—to build up the comprehensive pattern of relationships which enables the user to move from the point of entry into the system to all related reference points and track down all relevant records—was not possible. In the series system, these relationships substitute for old fashioned grouping and provide the basis for "regrouping" through inventories of agencies arranged in various ways. Once any relevant agency is identified from research into administrative history sources (e.g. gazettes, staff lists, year books, etc.) or through ancillary guides (e.g. the Agency Index), the user is able to track down related agencies without the need for any higher classification to assist him.

Primary groupings—Organisations—do exist in the classic series system, but they are too broad in themselves to give any useful differentiation or stratification of many agencies and they have now been practically abandoned at PROV. As we could not undertake the administrative history research needed to fill in the fatal gaps linking agencies to each other and could not justify to ourselves or others a heavy investment in research into the history of many agencies whose records have not come to us but which were nevertheless part of the descriptive chains between agencies

whose records had been transferred, we were attracted to a re-introduction of traditional grouping at the higher levels of description to produce a new Group Modified Series System (GMSS).

We found, too, that the pattern of government administration in the colonial period and up to about the 1870's, when the familiar departmental structures of today first really emerged, required a quite different approach in adapting the series system procedures we had inherited. The absence of structured departmental arrangements through which discrete agencies reported to Ministers in the 1860's, for example, and the absence of a ministerial/departmental structure entirely before the introduction of self-government (and for some years following) left something of a void at the level of description above the agency.

Chronological and hierarchical relationships are still provided for on our agency descriptions and a special effort is made to get the basic structural relationships between departments (when they emerged) and other significant agencies documented. GMSS still permits research along these relational paths to the extent they have been documented, but the assumption is that the network of relationships will never be fully or even adequately shown.

The key context element above the agency in GMSS is now the Record Group, similar to the groupings of major agencies under departments in AA's Inventory of Agencies. At PROV, however, *all* agencies are linked directly to one or more Groups and the Groups are not based solely on departmental arrangements.

Some Groups are "ministerial" in character—based on the portfolios beginning with the establishment of responsible government. The composition of a ministerial Group can be readily ascertained by consulting the published sources detailing administrative arrangements: Government Directories, Staff Lists ("Blue Books"), Appropriations Acts, and Year Books—the usual internal arrangement of which is under ministerial portfolios and thus aligns neatly with the arrangement of information in GMSS.

In the Crown Colony period (1851–1856), there were no Ministers. We have had little difficulty, however, in pushing back the post 1856 Groups in time to include many of the agencies for that period back to separation from New South Wales in 1851. Prior to that, the principal administrative Groups are the Superintendent of the Port Phillip District (1838–1851) in succession to the Police Magistrate (1836–1838).

Non-ministerial Groups have been identified for agencies which fall outside this structure—e.g. Governor, Cabinet, Courts, Ombudsman, Auditor-General, Municipalities—and for agencies which it is convenient to treat separately—e.g. Mining Districts, Police, Schools. A Group titled

“Not Otherwise Classified” is used for the miscellanea which any system seems called upon to deal with—e.g. personal papers, non-government records of one kind or another, copies of records from other governments.

All told, there are currently nearly 100 Record Groups in GMSS. This gives a sufficient breakdown to enable the Inventory of Agencies for each Group to be scanned without difficulty while limiting any proliferation of headings. By a simple coding device, ARCHIE will bring significant agencies (e.g. departments, major statutory authorities) to the head of each inventory.

The 100 or so Groups exhaustively describe the government administration of Victoria, both historically and contemporaneously. Within each Group, as many agencies are registered as is convenient or necessary to describe our own holdings, to refer users to authorised places of deposit, and to record agencies registered for FOI purposes. The Groups enable us to document the existence of major agencies whose records have been lost or not yet transferred, but it is unlikely that the Summary Guide will ever refer exhaustively to (or that we will register) agencies whose records have not been transferred. Through our Group descriptions, however, we can indicate to users in broad terms what archives once existed.

ARCHIE will lighten the overall workload in maintaining GMSS by transferring as much as possible of routine data processing to machine based operations. It will produce a better result by making possible applications of GMSS which are presently beyond our capacity. It will produce more complete and more frequently updated finding aids for public use. This is being achieved through a relatively modest personal computer networking system. (Note: the networking feature is a result of the size and configuration of PROV's operation; had we been smaller and in one location, ARCHIE could have been developed on a single PC).

The architecture of the system needed to provide for (what were competing requirements) both large volume data storage and sophisticated data retrieval requirements within a system application of very modest proportions. Economic use of disk space became a primary consideration. Maximisation of ARCHIE's potential in terms of both storage and flexibility has been achieved by disaggregating data storage onto numerous complementary data files and cleverly constructing the links across datafiles.

Our first problem was to discover how to go about automating a traditionally manual process operated by staff buried in current activities. We found no pre-programmed packages offering the solutions we sought in arrangement and retrieval. We found no systems analysts or programmers with any familiarity in archives work (though some have subsequently regretted the day they agreed to find out). The only options

were to adapt an existing package—either a stock control/inventory type of system or a library-based system—or to develop something in-house.

A stock control application has merit if all that is needed is to monitor the ebb and flow of records in a repository. As soon as more intricate details are required, such a system loses its appeal.

Adaptation of library systems is another matter. Much has been written about the ease with which certain library-based systems translate to the archival area. However, on examination several aspects inherent in such systems would appear to preclude their effective use, especially in the larger archival institutions. Especially in the areas of multiple provenance and split custody, two common archival situations, the author/title architecture would be applied only with difficulty—perhaps a serials cataloguing package would have been more serviceable.

In most of the literature about archives automation, the emphasis is on finding aid production and the resultant reductions in production and user servicing time, rather than on the development of a fully integrated archives system. Admittedly, this is the path down which PROV first ventured. Finding aids were the *raison d'être* for ARCHIE and anything else was to be cream on the cake. Yet the more involved we became in the project the more we began to see the possibilities; and our horizons went far beyond the production of finding aids.

An early decision was taken to forego on-line public access. We needed high flexibility in manipulating relatively large volumes of relatively inert data. The cost of building in on-line public access was beyond our capacity. ARCHIE could not give us the storage capacity needed to hold or generate data in a form which would be readily comprehensible to public users. On-line access is available to ARCHIE's on staff users after they have had some training and experience in its use.

For the public, we are looking forward to six monthly (or quarterly) issues of a complete, updated Summary Guide in computer output microform (COM). We feel that this is more than adequate for accessing data about archives holdings. For more recent changes to the data base, a terminal will be available in our Laverton search room for on-line interrogation by reference staff.

ARCHIE is a network of PCs running a relational database development and management package called DataFlex. Networking stations and the use of DataFlex has provided the PRO with a multiuser system, i.e. it can be accessed at more than one station at the same time.

A WordPerfect word processing package is also installed and its compatibility with DataFlex has allowed for a more powerful and flexible data manipulation environment. An example of this can be found in the use of Wordperfect to enhance the limited field size which is a draw-

back of the DataFlex system. Using WordPerfect, ARCHIE stores descriptive text separately from the main directory databases. All descriptive data not in fixed field format is fed into related word processing files of indefinite length. This enables us to add to each record a free text description set out in any format we desire with no limitations as to space. It has proved to be not only a compensation for the limitations of individual field sizes with DataFlex but has also allowed economies of space to be realised as the text information is stored off-line on diskettes and is accessed from that medium only when necessary. WordPerfect also offers some limited text retrieval so that function is not entirely lost to us.

Computerisation of the processes which control the current and future records holdings of PROV, including the regulation of access and disposal, involves the automation of three main levels of identification and description—Record Groups, Agencies, and Series—for which three interrelated databases (Sub-systems) have been developed.

Each Sub-system consists of a number of interrelated datafiles. The primary data record for each Record Group, Agency, and Series is kept on the main data file within each Sub-system. The primary record comprises fixed fields for those descriptors which never need to hold more than one data element (e.g. title/description; date range; quantity; etc.).

Where more than one field is needed for the same descriptor—e.g. related records (previous, subsequent, controlled, controlling) and consignments—provision for an unspecified number of fields within the primary record would have resulted in an excessive waste of space (and a higher cost). All such data is therefore entered into subsidiary files within each Sub-system. They are capable of holding an indefinite number of data records (in fixed field format) to supplement the primary data record.

In the Agency Sub-system, for example, the Agency title, date range, number, etc. is to be found on the primary data record. Related, superior, previous, and subsequent agencies (where noted) are held on data records in the subsidiary data files. ARCHIE give speedy on-line access to this information for those familiar with the system. It brings all the information needed by the public together in the COM output when each new edition of the Summary Guide is produced to give a result similar to that described by Scott for the series system.

Inventories of Series for each Agency and of Agencies for each Group are generated automatically by ARCHIE each time the Summary Guide is regenerated. This is done from both primary and subsidiary data records in each case. A search of the Series Sub-system, for example, selects and sorts all series showing the same agency recording and produces

a "report" which constitutes the Inventory of Series for that Agency. Both the Inventory of Series and the Inventory of Agencies will be output in chronological order by period recorded (for series) or period responsible (for agencies) rather than by period of existence. The Inventories can be accessed on-line by PROV staff by searching on the Agency or Group numbers.

This extensive linking of the datafiles is facilitated by the unique number assigned to every Record Group, Agency, Series, and Consignment which is a special feature of both the series system and GMSS. Agencies can be linked to each other or to series and so on down to consignments/accessions through the correlation of their unique numbers. Information is available from any of the datafiles when called for in predetermined output formats and is generated from the linkages established between Group, Agency, and Series numbers. When using a fixed field format, this minimises the volume of storage space required. It is much easier, quicker, and cheaper for ARCHIE to retrieve and manipulate the data when links between data elements are established by numbers especially as numeric data takes up approximately half the space as ASCII data elements.

ARCHIE had to store and manipulate large volumes of data over an indefinite period. The transaction rates for the various datafiles and for individual data elements varied enormously. For some transactions, access to more than one data file might be required. Production of an Agency registration, for example, pulls data from 6 different datafiles as well as merging with a word processing text file. In at least 4 of the datafiles concerned several records from each may be required.

The main outcomes wanted were:

Finding aids

- The Summary Guide to provide a comprehensive description of Victorian government agencies and their records, together with detailed information about PROV's holdings and their availability for public inspection.
- A keyword/functional index to the agencies using title words as well as allowing for enhancement by including non-title descriptors.
- Agency and series descriptions (registrations) which provide detailed information about Victorian government records and the agencies which created them.

Management Information

- Various aspects of the process of transfer, access regulation, disposal, and storage. It was important that ARCHIE could deliver up to date information concerning the status of records in custody to maximise use of resources and assist in planning.

At present, ARCHIE covers documentation at the context, series and

consignment (transfer/accession) levels. Future developments will include extending ARCHIE to include repository operations (e.g. location and issues).

Record Group Sub-system

The Record Group Sub-system contains basic directory information, as well as descriptive text, about each Record Group, including their interrelationships.

Data Input to Record Group Sub-system

See Figure 1.

On-Line Output from Record Group Sub-system: Computer

The main screen for each Group shows the Group Number; Group Title; Date Range; and whether the Group is Ministerial or Non-ministerial. There are three subsidiary screens (defined outputs):

- (1) *Previous Record Groups*
An on-line listing of all Groups which show this Group as previous—entry 4;
- (2) *Subsequent Record Groups*
Ditto for Groups showing this Group as subsequent—entry 5;
- (3) *Inventory of Agencies*
A listing of all Agencies which show this Group as Group responsible (generated from the Agency Sub-system)—entry 5 on the Agency Registration Sheet.

On-Line Output from Record Group Sub-System: Word Processing

The prose description for each Record Group can be accessed through the word processing Sub-system.

Agency Sub-system

The Agency Sub-system contains basic directory information, as well as descriptive text, about each administrative unit or public body (including their interrelationships) and placing them in an administrative context within the Record Groups. Information about the locations of records at an institutional level will also be available.

Data Input to Agency Sub-system

See Figure 2.

On-Line Output from Agency Sub-system: Computer

The main screen for each Agency shows the Agency number; the date of the Agency registration; the date of the last update; Agency Title; Date Range; and the current VRG responsible. There are five subsidiary screens (defined outputs):

- (1) *Historially Responsible Groups*
An on-line listing of all Groups (other than current VRG responsible) shown as VRG responsible—entry 5;

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PRO 4

VPRS PUBLIC RECORD OFFICE - SERIES SUBSYSTEM
DATA INPUT SHEET FOR SERIES REGISTRATIONSInstructions:

This form is to be used for the registration of new series only. Amendments to existing Series Registrations should be made on form 4A.

For a Provisional Series Registration complete sections 1,2, and 5.

For a finalised Series Registration complete all sections except 3 and 4.

Please attach descriptive text and/or justification, etc. to this form before forwarding to Context Control.

1. OFFICER: <u> </u> initials		SIGNATURE: _____	
REGISTRATION DATE: <u> </u> (day) / <u> </u> (month) / <u> </u> (year) - (two digits)			
2. SERIES TITLE: _____			
DATE RANGE:	(Start) : <u> </u> (qualifier)	<u> </u> (year)	
	(end) : <u> </u> (qualifier)	<u> </u> (year)	CURRENT VRG: <u> </u> (number)
CONTENTS IN CUSTODY:	(Start) : <u> </u> (qualifier)	<u> </u> (year)	
	(end) : <u> </u> (qualifier)	<u> </u> (year)	CURRENT VRG: <u> </u> (number)
QUANTITY :	<u> </u>		ACCESS: <u> </u>
3. CONTEXT CONTROL USE ONLY			
DOCUMENTATION: YES <u> </u> NO <u> </u>		REGISTRATION STATUS: PROVISIONAL <u> </u> FINALISED <u> </u>	
ORIGINATING REPOSITORY: <u> </u>		COPY : <u> </u> (M.R. or X)	
LOCATIONS: <u> </u>			
4. APPROVED CONTEXT CONTROL: <u> </u> (initials)		SIGNATURE: _____	
VPRS NUMBER ALLOCATED: <u> </u>			
5. AGENCY RECORDING			
VA number	Agency Title		YEARS OF RECORDING
<u> </u>	_____		<u> </u> - <u> </u>
etc.....		
6. PREVIOUS SERIES			
VPRS number	Series Title		YEAR OF TRANSFER
<u> </u>	_____		<u> </u> - <u> </u>
etc.....		
7. SUBSEQUENT RECORD SERIES			
VPRS number	Series Title		YEAR OF RECEIPT
<u> </u>	_____		<u> </u>
etc.....		
8. CONTROLLING RECORD SERIES			
VPRS number	Series Title		PERIOD OF CONTROL
<u> </u>	_____		<u> </u> - <u> </u>
etc.....		
9. CONTROLLED RECORD SERIES			
VPRS number	Series Title		PERIOD CONTROLLED
<u> </u>	_____		<u> </u> - <u> </u>
etc.....		
10. CONTROLLING AGENCY			
VPRS number	Agency Title		PERIOD OF CONTROL
<u> </u>	_____		<u> </u> - <u> </u>
etc.....		

Figure 3

- (2) *Superior Agencies*
An on-line list of agencies shown as "superior"—entry 6;
- (3) *Previous Agencies*
Ditto for all Agencies shown as previous—entry 7;
- (4) *Subsequent Agencies*
Ditto for all Agencies shown as subsequent—entry 8;
- (5) *Agency/Series Relationships*
Allows on-line access to data in two further subsidiary screens:
 - 5.1 *Recorded Series*
An on-line listing of all series showing this Agency as Agency Recording—entry 5 on the Series Registration Sheet.
 - 5.2 *Controlled Series*
Ditto for all Series showing this Agency as Agency Controlling—entry 10 on Series Registration Sheet.

On-Line Output from Agency Sub-system: Word Processing

The prose description for each Agency can be accessed through the word processing Sub-system.

Series Sub-system

The Series Sub-system contains basic directory information about each record series held at PROV linking them to related administrative units or bodies (Agencies). The control of transfer and disposal is also part of this Sub-system and it includes basic information about each consignment (accession) into a record series including details on transfer, access, disposal, and locations (at a repository level).

Data Input to Series Sub-system

See Figure 3.

On-Line Output from Series Sub-system: Computer

The main screen for each Series shows the Series Number, Title, and Date Range (Series and contents) as well as date of registration and date of last update, quantity, access status, what documentation exists on the series, whether the registration is provisional (requiring further research) or final, and location of the series in custody (which repository). There are three subsidiary screens (defined outputs):

- (1) *Series Consignments*
An on-line listing of all consignments into the Series giving consignment number, date range of consignment, quantity, and access status—data input through consignment input sheets not described here.
- (2) *Series to Series Relationships*
Allows on-line access to data in four further subsidiary screens:
 - 2.1 *Previous Series*
A listing of all Series shown as previous—entry 6

2.2 Subsequent Series

A listing of all series shown as subsequent—entry 7

2.3 Controlled Series

A listing of all series shown as controlled—entry 9

2.4 Controlling Series

A listing of all series shown as controlling—entry 8

(3) Series to Agency Relationships

Allows on-line access to data in two further subsidiary screens:

3.1 Recording Agencies

A listing of all Agencies shown as Agency Recording—entry 5 on the Series Registration Sheet.

3.2 Controlling Agencies

A listing of current Agency Controlling—entry 10 on the Series Registration Sheet.

On-Line Output from Series Sub-system: Word Processing

The prose description for each Series can be accessed through the word processing Sub-system.

Summary Guide

The Summary Guide will consist of separate Inventories of Agencies (for each Group) and of Series (for each Agency). Both the Inventories merge data from different Sub-systems and from the word processing Sub-system.

In its initial printing—expected during 1989/90—the Summary Guide will be used to supplement the 1985 List of Holdings. The data base will gradually be expanded to bring up information from the List to the Guide. The Guide will include an Agency Index generated from the Agency Sub-system.

Inventory of Agencies (for each Group)

The chapters of the Inventory will be the Record Groups. Each chapter will commence with the prose description of the Group brought in from the word processing Sub-system. This will be followed by two lists each of which is a defined output from ARCHIE

- (a) Previous Record Groups: showing date of function change and the VRG number, Group title and date range of the previous Group;
- (b) Subsequent Record Group: showing the date of the function change and the VRG number, Group title and date range of the subsequent Group.

These lists will be generated from the Record Group Sub-system. This will be followed by the Inventory of Agencies proper which is a defined output from the Agency Sub-system.

Inventory of Series (for each Agency)

The chapters of the Inventory will be the Agencies. Each chapter will commence with the prose description of the Agency brought in from the word processing Sub-system. This will be followed by listings from previous and subsequent agencies (as for the Groups) which will be generated from the Agency Sub-system. Then follows the Inventory of Series proper which is a defined output of the Series Sub-system.

Digest of the Public Records of Victoria

The Digest will be the capstone of the finding aids system (see figure 4) and provide an overview of the Victorian public records generally. Its rationale is given in PROV's 1986 Report to the Australian Council of Archives—a copy of which was distributed to all members of the Council at that time. The Digest will be published in booklet form to enable users to take it away for use at home and work and to help them in planning their research before looking at the Summary Guide itself which because of its format (microfilm) is unlikely to be so readily available. It will consist of introductory sections on how to use the Public Record Office and the Summary Guide and inventories of Record Groups in several formats. Abbreviated inventories of Groups in numerical order, classified order (ministerial and non-ministerial), and alphabetical order (index) will be provided. In addition, two more extensive inventories will be included and work has begun on a series of supplements to provide a functional index approach to the Groups which will be issued progressively.

Chronological Inventory of Record Groups

The Chronological Inventory will describe the Groups under headings for the successive stages in the development of Victoria's administration (District 1836–1851; Crown Colony 1851–1856; Self Governing Colony 1856–1901; State 1901–). Under each heading there will be a short essay summarising Victoria's administrative history at each stage of development and a listing of Record Groups showing the principal function shifts between Groups through time. There will also be a short essay on sources of administrative history.

This Inventory will also include brief chapters describing relationships with the archives of Great Britain (imperial administration), New South Wales (how Victoria's administration is reflected in the archives of that State), and the Commonwealth (reflecting transfer of records with function changes, principally at federation).

Research Report

Each Group will be analysed in broad terms indicating the strengths and weaknesses of PROV's holdings, the existence of records belonging to the Group in approved places of deposit and other locations, and the state of the archives (whether in custody or not) to the best of our existing

How to use the PRO's finding aids

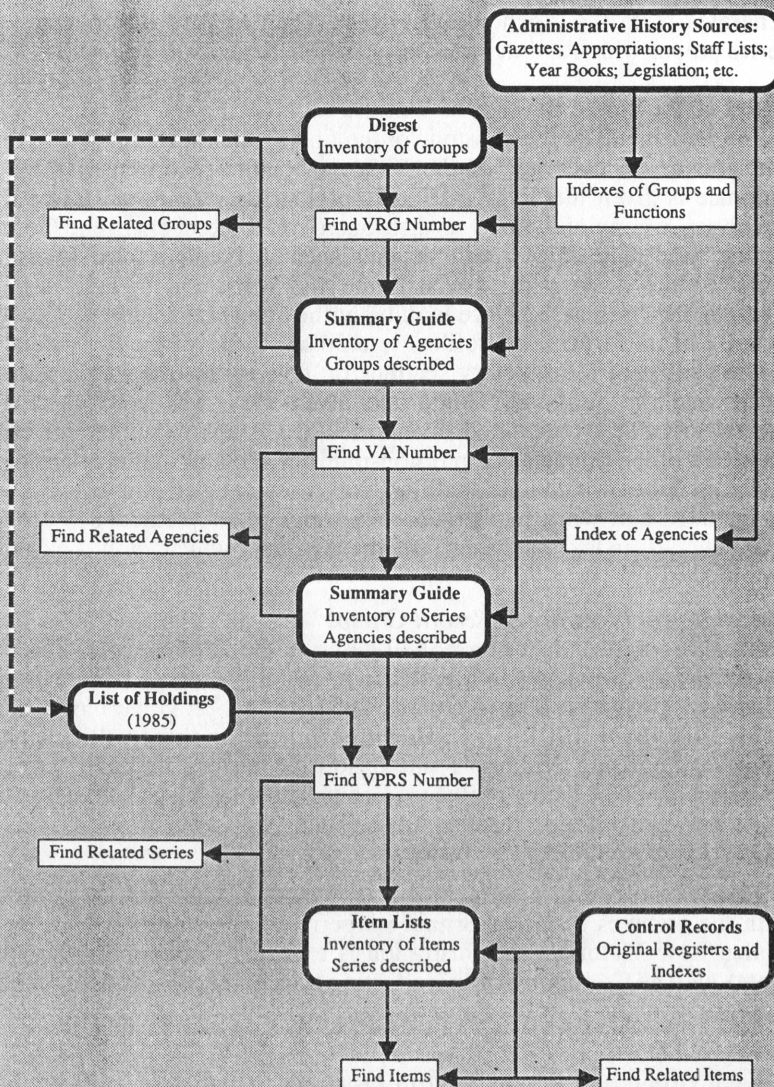


Figure 4

knowledge. This is necessary because the digest approach described above could otherwise give a misleading impression of completeness as to PROV's actual holdings to those users more familiar with the catalogue approach.

Indexes of Functions

The functional indexes will provide backup to the Digest and an alternative means of access to the Groups. Using contemporary administrative history sources, PROV is progressively producing functional indexes for publication. The first of these will be a selective index to the Appropriation Acts for 1851 to 1914. These Acts itemise expenditure appropriations for agencies of the period arranged under ministerial portfolio. The details are keyboarded into wordprocessing files on our computer under headings for each specific activity/function/office concerned referenced to the portfolio headings in the Acts. These lists are then sorted alphabetically on the computer and merged to produce a single alphabetical listing for the entire period which is then enhanced by cross references. In due course, it is proposed to produce indexes for the later and earlier periods. Sources to be used will include, in addition to the Appropriation Acts, the "Blue Books" and Staff Lists and, for the most recent period, the Government Directories.

Project Development and Consultancy

A detailed planning phase and a close analysis and development of our requirements both before and during ARCHIE's development has been essential to successful implementation. It ensured that an integrated system resulted which could not have occurred had we introduced computerisation on a piece-meal basis. Duplication and inconsistency in the manual systems were made apparent and the whole exercise revealed that our procedures did not always operate as we thought they did, a discrepancy which could have serious consequences when designing systems on the basis of "how things should have worked".

As this was possibly the first time PROV had reviewed some of its operations since their implementation, the planning stage was timely. It identified old bottlenecks as well as new information needs. This in turn created an atmosphere in which assumptions were questioned. Information needs and standardisation of presentation became a topic for discussion and a more directed and positive approach to many tasks was created.

The skill and enthusiasm of the staff were tapped so that everyone had a stake in ARCHIE's implementation. Opportunities for self-education in computer and keyboarding skills were plentiful as the number of PCs proliferated. It became apparent that widespread staff familiarity (avoiding specialisation by a few) was to be an essential part of successful implementation.

PROV employed the services of a professional programmer to assist it with its application development, programming and advice on the scope

and limitations of DataFlex. A great deal of what we have achieved would not have been possible without access to this expertise. Our consultant also provided us with other benefits. PROV now has a much more extensive knowledge about not only our own system but computers in general which it did not have before. The Office was not left in limbo upon the departure of the consultant but is now better equipped to deal with ARCHIE and future problems as they arise. Consultants should be used in conjunction with existing staff so that the best value is received—the consultant not only supplies a working system but has also fulfilled a training role as well.

Whilst using a consultant was absolutely essential for us and we have derived many benefits from the experience, it also came with its fair share of trauma. For PROV, the language barrier was critical. Both professions have a language which is peculiarly their own. Certain words take on totally different meanings when used in the professional context. The word “consignment” and the connotation which the PRO assigned to it proved enormously difficult for our consultants to come to terms with. It was only when we could explain in terms of concepts which they understood that it was resolved. Likewise, computer jargon was a stumbling block for us for quite a while.

Consultants should be therapeutic, but instead many become addictive (archival systems are not alone in this respect). To avoid this occurring, the project manager needs to have some basic knowledge of the limitations of both the hardware and the software and to have a basic understanding of the way in which computers function and why certain things may be impossible while similar requests would be beyond the scope of application. A repertoire of computer jargon could also be a useful attribute so as to at least give the impression of knowledge (although when it doesn't work you can really look ridiculous). One should never be afraid to ask for concepts, ideas, or programs to be explained and to continue asking if the explanation is unsatisfactory. The consultant and the programmer can't be allowed to control the system development simply because he/she speaks another language.

When working with a consultant, the need for an intensive planning phase becomes apparent. One must always be specific when making requests. No assumptions should be allowed to creep into the requirements. An open-ended or ill-defined project will only end up in a continuous process of overhaul and evaluation with no real results. Yet at the same time tasks should not be too stringently defined. The consultant or analyst is being paid not only for his programming ability but also for his creativity and manipulation of the package. Timetables and yard sticks and close monitoring of progress are essential as are quality controls. Unacceptable work should be indicated and should be corrected at the consultant's expense and not at the expense (either in time or in money) of the client.