

The results of this update effort showed that many museums have added a least one type of software within the last year, and that the software choice was as diverse as the first survey. Many museums have upgraded their software. Popular packages like dBASE III Plus, WordPerfect and Lotus 123 were chosen by several museums, just like the response in the first survey. See Appendix B. for a list of operating exhibit systems. It is composed of responding museums from both 1987 and 1988 questionnaires. Vendors are included in this list.

#### B. A CASE STUDY AND NEEDS ASSESSMENT OF ONE MUSEUM

Like many other museum directors, F. Whitney Hall, Chief Administrative Officer of the Fine Arts Museums, recently explained the funding shortfall in the budget "had to be offset by special sources of funding, donations, and extraordinary exhibition earnings. Until endowment income and annual donations grow to meet annual funding requirements, the Museums' financial well-being is dependent on bringing a blockbuster exhibition to the Bay Area at least once each two years . . ."<sup>70</sup> Exhibition program finances in recent years have come mainly from outside private support.<sup>71</sup> Before 1980, the City and County of San Francisco and Federal sources provided major exhibition funding. Proposition 13, and cut-backs in federal C.E.T.A. funds in 1978-79, reduced the Fine Arts Museums operating funds and resulted in staff lay-offs. Exhibition support staff, who totaled 34 before 1980, are now twelve. The Museums are closed to the public on Monday and Tuesday, and starting July 1, 1986 the admission price was raised one dollar, to \$4.00 for adults. Wages for temporary help to design, install, guard and maintain the 26,000 square feet of temporary exhibition space at FAM (de Young Museum and the Legion of Honor) must come from the granting agencies - not the museum operating budget.

The Museums were faced with the need to increase their endowment funds while maintaining their program of travelling exhibits. In 1986, the Fine Arts Museums showed sixteen temporary exhibits. Ten of them were travelling exhibits.<sup>72</sup>

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70. "Biennial Report of the Fine Arts Museums," 1983-1985.

71. Debra Pughe, Exhibits Manager FAM, "FAM Financial Outlook Report," September 1986. Interview with the author.

72. Debra Pughe, Exhibits Manager FAM, May 1987.

## FUNCTIONAL REQUIREMENTS FOR EXHIBIT MANAGEMENT SYSTEMS

### 1. STUDY - PURPOSE AND METHOD

The purpose of studying FAM travelling exhibit data was to assess the feasibility of managing this documentation on computer and to determine the cost-effectiveness of such a system. Like the national questionnaire, this study examined exhibit loan activity, hardware and software, record integration, report generation, and future computerization plans. The assessment tools were: staff interviews based on the staff questionnaire information and grid charts; software and hardware evaluation through current literature and interviews with FAM staff, other museum staff, and related business staff (Fine Arts Packers and Art Museum Services). As a result of the interviews and literature study, the author produced the following: a flow chart, task grid charts, a data dictionary, illustrations of hardware and software equipment by department and department locations.

### 2. PRODUCTS: a. FAM TASK FLOW CHART

Barbara Zentner<sup>73</sup> creatively divides blockbuster exhibit duties, from a registrar's point of view, into five stages: 1. Initial planning, 2. Receiving, unpacking, inspecting, and reporting, 3. Security, crowd control and vandalism, 4. Reporting, repacking, shipping, cleaning up, and 5. Discussion about what you have learned ... with notes kept for the next experience. Note the strong emphasis on packing, security, and reporting, all duties of the registrar.

Marcy Reed<sup>74</sup> explains this basic task flow in her Masters Thesis, "The Feasibility of Implementing Automated Exhibition Processing Applications in Art Museums." She says that exhibitions have a life cycle of: presentation and object research, planning ancillary programs and publications, collecting objects and installing them in the gallery plan, and

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73. Barbara Zentner, Western Museums Conference Newsletter, AAM, "A Registrar's Suggestions for Survival," 1 (1986): 3. Her stages are colorfully called: Period of Creative Worry, Period of Frantic Action, Period of Continuing Anxiety, Final Frenzy, and Post Mortem.

74. Marcy Reed, "The Feasibility of Implementing Automated Exhibition Processing Applications in Art Museums," Masters Thesis, JFK Univ., March 1987.

deinstallation with dispersal of objects to the original lenders or to the next venue. This is a curator's viewpoint with emphasis on presenting and writing about the objects.

To understand record integration, the author made a flow chart of the fifty documentation tasks in the FAM exhibit process. It is divided into three parts: tasks required before exhibit approval; tasks required preparing for and during the exhibit; and finally, tasks required after the exhibit. See the end of this section for the FAM Flow Chart. Important documents, critical events and personnel are outlined in boxes on the chart. The numbers on the FAM Flow Chart correspond to the grid charts, explained in the next section.

Generally, each of the stages of documentation is handled by the same staff in most museums. The curator, lenders, designer, director, trustees, development staff, and registrar work on the proposal or "before" stage. The packer, photographer, publications director, conservator, bookkeeper, courier, insurance and customs brokers, freight companies, exhibit technicians, and security guards are added in the second "preparing for and during" stage. The exhibit manager, if there is such a position, joins the staff throughout the different stages but takes a major role in the "after" stage of final reports, summary sheets, and financial overview.

The FAM flow chart singles out four documents that have data fields that are used most frequently throughout all the documentation process. These four forms are: the Loan Agreement Form, the Incoming Receipt Agreement, the Outgoing Release Agreement and the Notice of Art Object Movement. The data on these four forms all relate to registration functions, but the data carries through to other documents. It would be essential to include the data in these forms since it is the core of information for the system.

The Loan Agreement form is a good example of repetitive use. One hundred different Loan Agreement Forms were produced in 1986 for travelling exhibits at the FAM.<sup>75</sup> This means that there was an average of ten of these forms for each travelling exhibit. In other words, for each exhibit objects came from ten different sources, each group requiring a Loan Agreement form. Much of the same information was typed over and over again. Some of the repetitive data was: the exhibit title, exhibit dates and

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75. Paula March, Exhibition Registrar FAM, April 1987.  
Conversation with the author.

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locations, name and address of the borrowing museum, and the borrower's name, title and date for signature authorization.

### 2. PRODUCTS: b. GRID CHARTS

Before establishing a study at the Fine Arts Museums of San Francisco (FAM), eight key staff members were chosen and interviewed to obtain a sample of the manual and computer generated reports each of them produced in dealing with travelling exhibits. Three worksheets were sent to the staff before each interview. Just like the national survey results, where there were a great number of reports and a great variety of different types of reports generated by museums, the Fine Arts Museums showed great report volume and report variety.

In an effort to clarify these issues, a grid chart was made from the interview information submitted by the eight staff members. The chart listed 44 separate documents that contained 79 unique data elements. The chart pinpoints where information overlaps and helped to set data standards for the computer system. The chart was expanded as more reports, lists, and forms were collected, finally showing the total volume of information that the computer system must hold.

A second grid chart was made as a comprehensive survey and sent to 25 staff members at the FAMSF who are directly involved with the travelling exhibit process. It plotted the same 44 documents against 38 staff members and outside companies or groups of involved people. Each staff member checked the list of documents to see if they originated or received each document and they added documents not listed on the chart. The chart shows the output of information from each department and which departments receive this output. Information flow from department to department was determined and charted from this groundwork. Charting techniques are from an article on The Multicolumn Procedure Chart by William Mullee, published by Work Simplification Round Tables and a Decision Table Format prepared by Lynda Mancebo of the University of California Chancellor's Office, Management Analysis Group. See the end of this section for the two grid charts.

The two grid charts were further refined in writing the data dictionary (see next section). More documents were found and some were eliminated, so that 50 separate documents were plotted against 80 unique data elements in the first grid chart; and 39 people (data sources and recipients) were plotted against the same 50 documents in the second grid chart. By counting the

frequency of data elements used in the forms, certain forms showed strikingly that they contained the essential information used throughout the exhibit process. The second grid chart matched the originators and recipients of these forms.

By selecting essential data, the staff can make their hardware decision. If a microcomputer is to be the destination for the fifty reports, only essential items of information can be stored in the computer because of space limitation. If a larger minicomputer with linked microcomputers holds the information, much more material can be put into the system. The cost, however, will escalate dramatically.

Report, form, label, and list generation is another problem. Does the museum want to keep track of which documents are issued for each particular travelling exhibit in a computer calendar or in project management report? Do they also want to generate all of these documents or a few of the most used documents? Once all the documents were collected from the staff and were analyzed for the fields of information that they contained, decisions of budget and hardware and software programs became clearer. The amount of overlapping information helped to decide these issues. Data fields were then chosen and a data dictionary, or authority list, was written.

## 2. PRODUCTS: c. DATA DICTIONARY

The author identified 82 specific data fields and wrote a data dictionary (the number of fields has been expanded to 163 in this report). A data dictionary is a way to standardize fields of information. It defines all the categories and types of information in a computer system with more than one database or more than one record type. Each definition explains how the information should be entered and retrieved. It is a powerful force for standardization since all the information in the database is structured from one set of fields with their indexing noted. The data dictionary also helps to define the space required for storing the information in the computer since the field lengths are given. From this space requirement, part of the cost of the system can be calculated. It lays the foundation for a logical data model. The format and guidelines for the data dictionary are based on the Humanities Data Dictionary of the Canadian Heritage Information Network (CHIN).<sup>76</sup> See Appendix A for the Data Dictionary.

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76. Stephen Delroy, Deborah Jewett, Raymond Bellamy, Documentation Research Group, Museum Services Division, Humanities Data

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Marcy Reed<sup>77</sup> explains this model by dividing the data into various output types: reports, lists, text, and forms. She has made up sample menus in a model software program. Her main menu has: 1. Exhibition Coordination, 2. Ancillary Activity, 3. Funding/Budget, 4. Loan Processing, 5. Shipping, and 6. Installation. The Exhibition Coordination Menu can print an exhibition proposal, a summary, a schedule, a venue list, a monthly and weekly tickler report, a preliminary budget, an expense report, an object list, a lender list, a monthly and weekly shipping report and provides entry screens for exhibition data and object data. To coordinate these functions, she has divided all of her data fields into data categories: exhibition, object, publication, shipping, attendant activity, funding, mailing list, checklist and budget.

Once the information required for travelling exhibits is defined, the next step for the FAM staff would be to determine implementation requirements: the number of hardware devices needed, their space requirements, linkages and response times, and the various software functions based on their data model (word-processing, spreadsheet, database, sorting, indexing, reporting etc.). Then the staff can choose software and hardware to hold and manipulate this information.

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Dictionary of the Canadian Heritage Information Network,  
Documentation Research, Publication No. 1, Revision 1, June 1986.

77. Marcy Reed, "The Feasibility of Implementing Automated Exhibition Processing Applications in Art Museums," : 86, 90, 92-93. See figure 10 for output types and figure 11 for main menu and nested menu examples. Figure 12 lists the model data fields.

2. PRODUCTS: d. AN ANALYSIS OF SOFTWARE AND HARDWARE

The author made a brief survey of the Fine Arts Museums existing hardware and software to identify equipment for exhibit needs. Two figures of known equipment and two maps of the two FAM sites were produced.<sup>78</sup> At the time, an ongoing survey of presently owned FAM computer equipment and software was being conducted by a Chicago consulting firm, Grunsinbach. FAM staff collected information for their consultant and shared it with the author.<sup>79</sup>

By understanding the variety of hardware and software operating in a museum, relationships for sharing information can be defined. Usually, each department operates on an individual basis, compiling information and then sharing it with the other departments after it has been printed. Overall computer system planning allows departments to share information on-line, or at least by exchanging floppy disks before the information gets to the printed stage. This "magnetic" rather than paper exchange requires that departments use the same software or at least have conversion software so they can read the magnetic information on their computer. Changes to the magnetic information are much easier and less time consuming than changes to printed information.

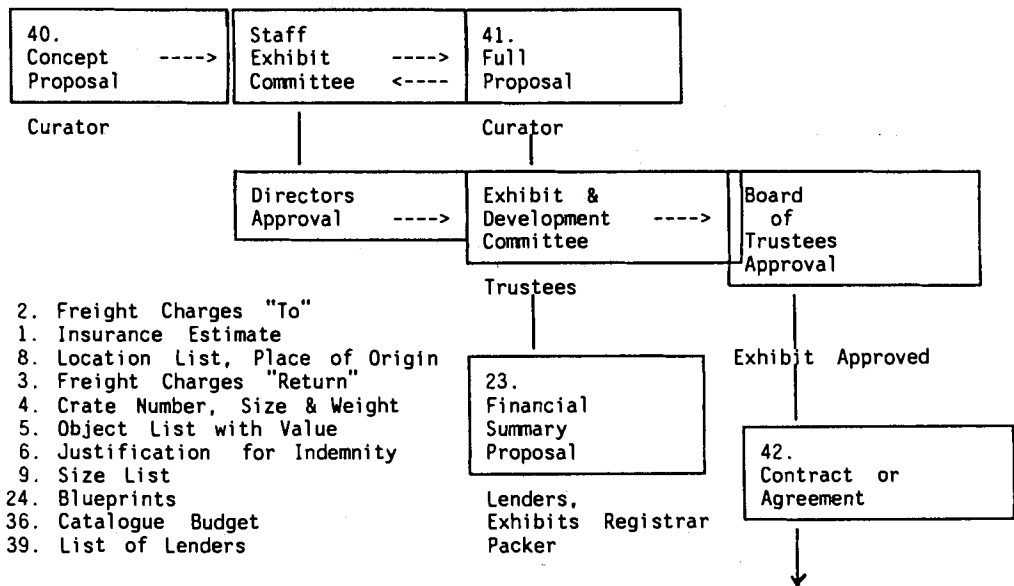
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78. Rozell Overmire, "Records Management in Museum Travelling Exhibits, Planning a Computerized System," JFK University, August 1987. Figures 1 and 2, pages 99.1-99.4.

79. Kevin Burns, Data Processing Clerk, Membership Department FAM and Gail Jarocki, Information Services/Membership Manager. Interview about questionnaire sent out to FAM staff, March 1987.

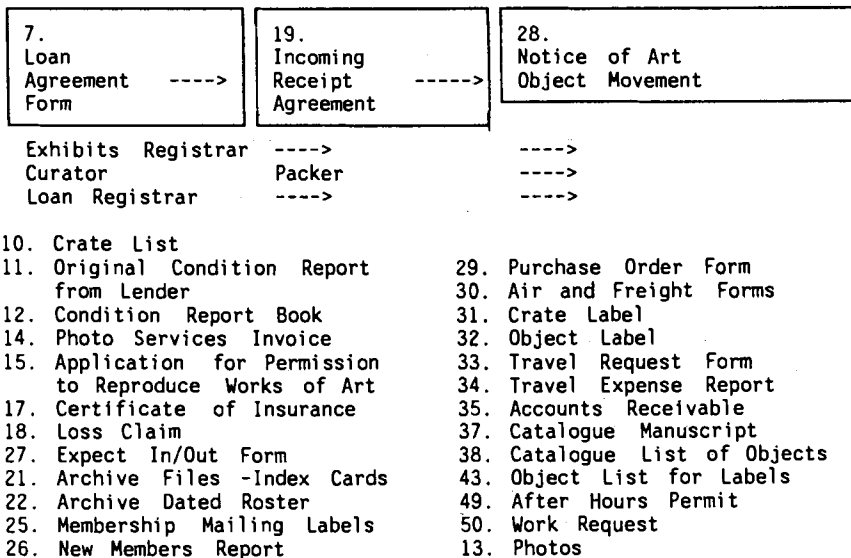
**FUNCTIONAL REQUIREMENTS FOR EXHIBIT MANAGEMENT SYSTEMS**

**TASK FLOW CHART - FAM TRAVELLING EXHIBIT DOCUMENTATION**

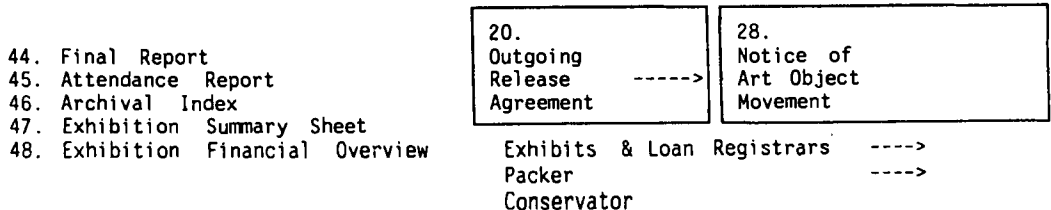
TASKS REQUIRED BEFORE EXHIBIT - PROCESS TAKES APPROXIMATELY ONE YEAR:



TASKS REQUIRED PREPARING FOR AND DURING EXHIBIT:



TASKS REQUIRED AFTER EXHIBIT:



ARCHIVAL INFORMATICS TECHNICAL REPORT VOL. 2, #4, WINTER, 1988

DATA ELEMENTS	TASKS FORMS REQUIRED
1. SHIPPING AND FREIGHT COST	1. INSURANCE ESTIMATE
2. FREIGHT COST	2. FREIGHT CHARGES "TO"
3. COURIER COST	3. FREIGHT CHARGES "RETURN"
4. PACKING & COLLECTION COST	4. CRATE NUMBER, SIZE & WEIGHT
5. CUSTOMS FEE COST	5. OBJECT LIST WITH VALUE
6. SUPER-VISION COST	6. JUSTIFICATION FOR INDEMNITY
7. CARTAGE AND STORAGE COST	7. LOAN AGREEMENT FORM
8. COPIES, JELI COST	8. LOCATION LIST-PLACE OF ORIGIN
9. COURIER COST	9. SIZE LIST
10. LENDER (NAME, ADDRESS, PHONE)	10. CRATE LIST
11. ESTIMATED CRATE SIZE	11. ORIGINAL CONDITION REPORT FROM LENDER
12. DIMENSIONS/WEIGHT	12. CONDITION REPORT BOOK
13. LOAN NUMBER	13. PHOTOS
14. OBJECT NAME/TITLE	14. PHOTO SERVICES INVOICE
15. DESCRIPTION, ARTIST/MAKER, DATE, MEDIUM, ACCESSION #	15. APPLICATION FOR PERMISSION TO REPRODUCE WORKS OF ART
16. INSURANCE VALUE (BY OBJECT, US \$)	16. TRACKING OBJECTS THROUGH TOUR
17. SOURCE OF VALUATION	17. CERTIFICATE OF INSURANCE
18. TOTAL INSURANCE VALUE, ENTIRE EXHIBITION	18. LOSS CLAIM
19. TITLE EXHIBITION-AND NATURE	19. INCOMING RECEIPT AGREEMENT
20. INDEMNITY TIME PERIOD	20. OUTGOING RELEASE AGREEMENT
21. DATES AND LOCATIONS (VENUES)	21. ARCHIVE FILES-INDEX CARDS
22. TOTAL US INHERITANCE VALUE OF OBJECT	22. ARCHIVE DATED ROSTER
23. TOTAL US INHERITANCE VALUE, ENTIRE EXHIBITION	23. BUDGET SUMMARY
24. FEDERAL EMPLOY STATUS NUMBER	24. BLUEPRINTS
25. CERTIFICATION	25. MEMBERSHIP MAILING LABELS
26. EXHIBITION SIGNIFICANCE	26. NEW MEMBERS REPORT
27. SECURITY (EX. SITES & STORAGE)	27. EXPECT IN/OUT FORM
	28. NOTICE OF ART OBJECT MOVEMENT
	29. PURCHASE ORDER FORM
	30. AIR AND FREIGHT FORMS
	31. CRATE LABEL
	32. OBJECT LABEL
	33. TRAVEL REQUEST FORM
	34. TRAVEL EXPENSE REPORT
	35. ACCOUNTS RECEIVABLE
	36. CATALOGUE BUDGET
	37. CATALOGUE MANUSCRIPT
	38. CATALOGUE LIST OF OBJECTS (NO VALUE)
	39. LIST OF LENDERS
	40. CONCEPT PROPOSAL
	41. FULL PROPOSAL CONTRACT OR AGREEMENT
	42. OBJECT LIST FOR LABELS
	43. FINAL REPORT
	44. ATTENDANCE REPORT
	45. ARCHIVAL INDEX
	46. EXHIBITION SUMMARY SHEET (ONE PER EXHIBIT)
	47. EXHIBITION FINANCIAL OVERVIEW (5 YR. SPREADSHEET)
	48. AFTER HOURS PERMIT WORK REQUEST
	49.
	50.







FINE ARTS MUSEUM DEPARTMENTAL EXHIBIT ROLES

1. Accounting - Project costs, costs shared with Development, Travel expenses, Part-time Staff costs
2. Administration/Development - Coordination of department roles, funding: solicitation from contributors, grant application, coordination with FAM Foundation
3. Conservation - Paintings, Objects, and Paper: Conservation decisions in initial exhibit planning, conservation check on all exhibit objects incoming and outgoing, repair on consent
4. Curatorial Departments - American Paintings; American Decorative Arts; European Paintings; European Decorative Arts; Africa, Oceania and the Americas; Print Collection; Textiles: - initial research and lender contact, theme presentation for proposal, publication and label text
5. Engineers - security during installation, during exhibit and deinstallation, building and ground maintenance
6. Exhibition - blueprint, labels and text, gallery design and mounting and vitrine construction, installation and deinstallation, managing technicians, audio visual equipment
7. Gift Shop - Merchandise, Books
8. Information Services/ Membership - members mailing list for advertising and ticketing
9. Interpretation/Education - labels, brochure, publication assistance, gallery interpretation, training of gallery guides or docents, lectures, films
10. Museum Society - members financial and service support
11. Publications - catalog, and brochures, posters, members publications
12. Public Information - Advertisement, press releases
13. Registration - cataloging, photographs, conservation reports at shipping and receiving, insurance, crates and crate labeling and instructions, courier expense, shipping expense, loan forms, incoming and outgoing receipts, object movement forms, storage planning, contact with legal council, insurance and customs agents
14. Volunteer office - Recruiting and training of docents, auxiliary workers, planning special events for volunteers

The table above lists each FAM department and their roles in an exhibit. It suggests roles and is not a definitive list. Departmental structure changes according to the Administration's viewpoint. Some of the above departments may be considered under the authority of others or may be a separate department now. Apologies for any departmental omissions.