Chapter 5 Acquisition

Integration Planning Decisions

In the schema of this guide the planning process that relates to acquisition and implementation is integration planning. As the name implies, this is the process of bringing together the application and technical environment requirements with the resource requirements and deciding how the new system will be integrated into current practices. Administrative and procedural requirements are considered as part of this process.

Two of the most critical decisions are focused on the type of application and the way it is acquired.

MakeorBuy

It is safe to say that with the exception of very large institutions with substantial skilled staff and plentiful resources (and even then it is debatable) museum information systems are better purchased than developed in-house. There is such a diversity of quality applications in all price ranges running on different hardware that it is difficult to recommend building a system from scratch or even from a Fourth Generation language starting point.

It is also true that the stock offerings from vendors may need customization or adjusted to meet the specific requirements. If their systems allow it, vendors are usually prepared to do this. If they are reluctant to propagate different versions of their system, they may be unwilling to do this. This means that unlike buying word processing software there will need to be interaction with the vendor as the regular application is fine-tuned for implementation.

Acquisition Process

Evaluate cost, time, life span, skills available

Identify vendors/developers

Develop and issue Request for Proposal (RFP)

Evaluate responses
- establish criteria
- review responses
- vendor presentations
- references

Conduct negotiations

Award contracts

Begin development process

Begin implementation planning process

figure 41

If in-house development is desired, it is a good policy to treat it as one would another vendor, and subject that option to the same evaluative steps as the others. Staff time costs, opportunity costs, potential development cost overruns along with the length of time it will take to develop the application and ongoing support requirements should be scrutinized as these are the areas that can easily get out of control.

Selecting a Vendor

Selecting the vendor is another activity that should be done in relationship to the scale of the project and the amount of the expenditure: the process should be used differently for $5,000 and $500,000 acquisitions. The basic steps are shown in Figure 41.

Institutional governing authorities may have specific procurement requirements that have to be met for specific items (eg computers) or for purchases over a certain amount. Any such procedures, and some can be very extensive, will have to be accommodated and should be established early in the process.

Identifying Vendors

The Museum Computer Network publishes a list of vendors and consultants (see Chapter 8). Other good sources are directories and the advertisements in professional publications. It is a good idea to contact vendors with a brief letter explaining intentions and timescale, asking them for all current literature and to indicate what products or services they feel would be appropriate. Pricing information will not always be volunteered. With this information it's possible to refine the distribution list for the RFP to a manageable size.

Developing the RFP

The RFP is the document that brings together the outcomes of the planning/specification stage. There should be a place for everything identified in the specification process. Vendors may be required to treat the RFP as confidential in order that sensitive information that has an impact on the system can be shared with them. It is very important that all relevant information be disclosed; it is counterproductive to conceal important information.

Similarly, museums should treat all responses to the RFP in confidence.

RFPs may well contain all the sections shown in Figure 42 but should at least have:

Overview of current environment
Scope and Objectives of intended project
Checklist of desired features
Budget indication
Milestones and measures of success

The RFP itself should contain only relevant information to the required degree and the same principle should be applied to the RFP document itself. Look at both the absolute dollar value and the relative amount of your overall budget it represents over the life of the system when determining how extensive to make the RFP. Keep in mind that it can take a vendor 40–60 hours of work and hundreds of dollars in direct costs to respond to an RFP and they will be reluctant to respond as required to one that makes unnecessary demands. Be truthful: vendors should know, for example, that "final approval for the project is not in place".

Components of the RFP

Background Information
- Summary of project scope and objectives
- Relevant institutional procedures and practices
- Other general contextual information.

Software Requirements
- Functionality sought (entry, retrieval, reporting, indexing)
- Modifiability
- Modularity
- Integration with other applications
- User interface (ease of use, look and feel, presentation)
- Data Features (data model, data dictionary, data flow diagrams
  quantities: number of records, file size, number of objects

Hardware Requirements
- Processors
- Workstation — (Constraints, conditions, capacity,
- Netware — standards for each in functional terms,
- Peripherals — Let vendors propose configuration)

Documentation requirements
Training Requirements
Site preparation and installation
Acceptance Testing
Data Conversion Testing

Instructions for response
- rules — deadline
- format — delivery of copies

Disclaimers
Budgetary Guidelines and Preferred Approaches

Vendor Capabilities
- prior experience
- demonstration of capability/ability to understand problems
- business philosophy, financial stability
- references
- quality of staff committed to project

Contract Terms (leave open to negotiation in so far as possible)
- Performance
- service levels
- payment schedules
- protections: (assurances and warranty, performance bonus/penalty, settling disputes, escrow)

figure 42

Use realistic timeframes. Most vendors have done enough installations to know how long it takes. It is often useful to let them propose the timescale and for both parties to remain flexible.

This also applies to the RFP process itself. The respondents should be given ample time to reply; 6 weeks from date of issue is not unreasonable. Respondents should not be expected to travel at their own expense to show their system unless they are on the short-list or otherwise have reasons to make that investment. Short-list candidates should demonstrate their system at their expense as part of the final selection process.

Ways to ensure consistent format for responses

The RFP is intended to elicit specific responses to a standard set of conditions allowing direct comparison of the options. Without specific instructions on how to respond and formats for response each vendor will choose their own style making the evaluation process difficult. Some standard ways that can be used are shown in Figure 43.

Ways to Standardize RFP Responses

Specify

Format for reply

- elicit information in questionnaire format (e.g., vendor questionnaire)
- provide format specifications (e.g., cost schedule categories & lines)
- functional requirement checklist (e.g., expanded list of functions)

Contents of response

- provide table of contents and numbering style

Rules

- who to contact, how
- under what circumstances
- list the evaluation criteria to be applied

figure 43

Specifying formats for reply and use of requirements checklists are two common and effectively used devices. Formats can be applied in a variety of ways including questionnaires—useful for gathering vendor information—timetables with tasks listed and blank spaces for dates to be inserted, and pre-formatted budget spreadsheet.

Checklists are particularly useful for evaluating responses to the functional requirements. Figure 44 shows one arrangement that encourages consistent responses. The items (rows) are extracted from the requirements specification and the column information added. Indicating the relative importance to you assists the vendor in determining their response. This form can easily be converted to capture the responses from the respondents (see evaluation section).

Real examples are always a good source of inspiration. The organizations listed in the resource section usually know who might be willing to share their RFPs. Ask colleagues, vendors, or professional associations such as the Museum Computer Network for good examples.

Evaluating Responses

The responses should be carefully reviewed by the project team with additional reviewers if necessary. The evaluation should be a formal process both to ensure a thorough review of the material and to afford protection and support for the decision to be made. The evaluation process will become quite complicated and the formal evaluation techniques will be beneficial.

Example of Functional Response Checklist

Function/service	Requirement category	Evaluation weight	Availability	Cost to develop
Retrieval functions:				
Search templates	E	15	Now___ By_____	_____
Index browsing	M	15	Now___ By_____	_____
Pattern matching	O	5	Now___ By_____	_____
Multifile searching	E	20	Now___ By_____	_____
Keyword searching	M	10	Now___ By_____	_____
Free text searching	O	25	Now___ By_____	_____
etc.			**Total**	_____

M = mandatory: must be in the system. Systems without will not be considered.
E = essential: must be there if system offers that feature or module.
O = optional

Note:
This is an example of a Checklist for one area only—Retrieval Functions.
The checklist should correspond to all features specified in the RFP.

figure 44

The team should establish formal techniques to their satisfaction, but in the least formal evaluation and rating sheets are suggested. Any forms used for vendor responses such as shown in Figure 44 can be used directly in the evaluation process. Others will have to be created.

Sample RFP Summary Evaluation Form

Scored Area		Weight	Vendor 1	Vendor 2	Vendor 3
Software	functionality modifiability modularity integration user interface				
Hardware	capacity functionality cost				
Documentation requirements					
Training requirements					
Site preparation and installation					
Acceptance testing					
Adherence to rules					
Life cycle costs					
Vendor capability	references quality of staff				
Contract terms	performance service levels payment schedules protections				

figure 45

Establishing Criteria

If not already done evaluation criteria need to be established by the project team and written up into an evaluation form. Often this is done in summary form with the detailed information scored elsewhere. One example of many possible arrangements of an evaluation form is shown in Figure 45.

Generally the scoring process should include:

scoring of desirable features (mandatory features must be met by all)
weighting factors
rejection criteria

Much of the process can be objectified but there will need to be a method of incorporating subjective criteria which will be important in evaluating vendor presentations and client references. One way is to reach consensus on each score entered on the summary sheet.

One useful approach is to evaluate vendor responses to features based on citations to their system documentation. All yes answers on a checklist are not equal.

The rest of the decision process is shown in Figure 46 and involves:

Reviewing responses to RFP
Inviting a short-listed group to make Vendor Presentations
Reviewing installed systems and checking references

Evaluating Responses to the RFP

Establishing criteria

- scoring of mandatory and desirable features
- weighting factors
- rejection criteria

Reviewing responses to RFP

- digesting the claims
- scoring each section of each response
- summary reporting

Inviting a shortlisted group to make vendor presentations

- review application
- ask questions
- become familiar

Reviewing installed systems and checking references

- check claims and opinions with previous clients

Reaching consensus

- unite behind decision

figure 46

Reviewing Responses

Evaluation is done on each section of the RFP and can be parcelled out to sub-groups of the project team. Scores are then reduced to summaries for presentation. This review can be time consuming because of the methodical approach necessary to evaluate the hundreds of individual items. It is quite acceptable for the review committee to support the reduced scores with a summary of strengths/weaknesses or pros/cons of each respondent then to write a narrative interpretation.

Vendor Presentations

The preliminary review usually identifies a number of unresolved issues for a short-list of candidates. These issues might be resolved by inviting them to do presentations or by engaging in another round of written questions with written answers.

Vendor presentations have become the norm but often very little is learned at them, they cost a lot to do, and they take considerable time. They do serve the purpose of:

clarifying any items in the written response
introducing the vendor and staff to project team.

This presentation is usually treated very seriously by vendors as it can often make the difference when a number of solutions look equally appealing. The questions should be direct, relevant and clearly to-the-point. Vendors will likely respond defensively to perceived attacks so maintaining a non-threatening decorum is preferred to a confrontational approach.

This is the opportunity to get details from the vendors on your terms. Make sure you:

have an agenda—if not you'll see what they want you to see
ask all the questions you have
get satisfactory answers—if not say so then get it in writing

Checking References

During the tendering process vendors are naturally trying to impress and win the job. Even if the vendor is overwhelmingly impressive it is wise to check with current and previous clients to verify any claims made or to substantiate performance. Often it is useful to identify clients who are not offered as references and include one or more of them in the interview. If time and money permits a site visit can be invaluable.

Reaching Consensus

It is important for the project team to reach an agreement on the way to proceed. Often one choice will be obvious but be prepared to have to choose from options presented to management. This may be easier said than done. Consensus building is a different democratic process than majority rules and takes more time and energy to reach. The advantage is that the team all subscribes to the final position. The bibliography cites useful instructional material on consensus building.

Once a decision has been reached it is courteous to inform all RFP respondents of the outcome, not just the successful bidder. It is not necessary to release details but indicating areas of weakness can help the vendor be more responsive to future proposals.

Negotiations and Contracts

After deciding on the preferred option, terms and conditions established in the tendering process are formalized in a contract document. It is unlikely that the institution's and vendor's requirements match perfectly so negotiations—sometimes extensive—are necessary to establish mutually agreeable terms.

All understandings, agreements, promises and claims made in the response to the RFP and vendor presentation need to be reviewed and agreed to. It is customary to indicate on the RFP that the response will become a legal part of the contract document. Even if this has been done it is wise to review critical areas. It is also essential to establish schedules (work and payment), deadlines and any penalties or bonuses for inadequate or exceptional performance, and a method of settling disputes.

Negotiations conclude with the "best & final offer" whereby both parties accept compromise: the vendor provides a final offer to the client's final position, each having made concessions.

Special Clauses in Computer Contracts

Definition of terms	• acronyms • terms and concepts
License terms	• protection of rights • maintenance • termination • limits of use
Fees and prices	
Payment schedule	• deliverables
Modifications to software	
Warranty	
Installation	• schedule • requirements
Acceptance	• tests • test methods and data
Limitation on liability	
Access to source code and documentation	• escrow • source code

figure 47

There are good reference books in most legal libraries on computer contracts that will give initial guidelines for establishing the contract. A list of possible clauses is shown in Figure 47. It is essential that all draft contracts be reviewed by the institution's legal counsel and if possible also by a specialist in the area of information systems contract law. There are special clauses pertaining to software and hardware systems that not all lawyers will be familiar with.

Development Process

Once the contract is in place the actual work will begin to customize or develop the application. The amount of interaction required with the vendor during this phase is often underestimated. It is tempting to schedule new activities while development is in progress but care should be taken not to get over extended. There will be countless questions and clarifications required that can consume substantial quantities of time.

The development schedules are specified in timetables that are examined in the Implementation chapter which follows.

References

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Note

References 1–4 are biased towards specific systems.