

Why Plan The success of an automation project depends on good planning practices. There is an adage that says “without planning mistakes are automated”. This sums up the necessity for planning and the larger (more costly) the project, the greater the need.

The goals of planning are to ensure the project is completed on time, within budget, and without causing irreparable damage to the institution or to the project team. Planning is messy. It is usually complex, iterative rather than linear, and demands structure and organization to make it work.

Planning involves the definition of tasks, creation of workplans and schedules, definition of critical paths, and distribution of assignments. These are monitored by reporting procedures.

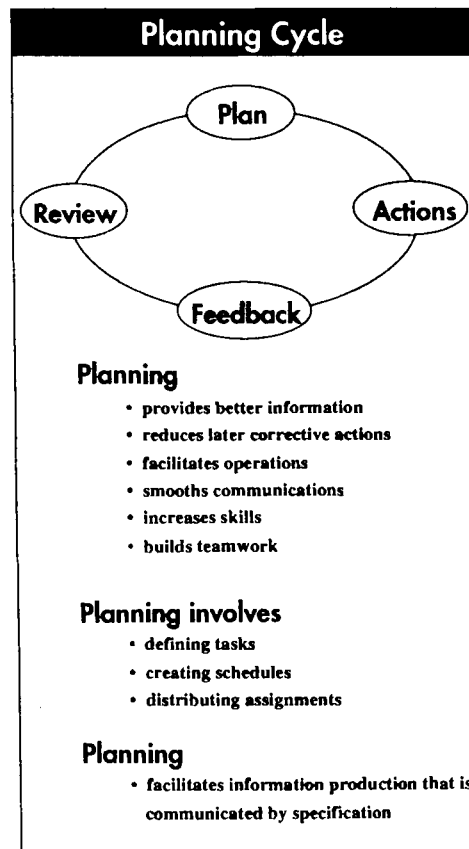


figure 12

Planning will provide more and better information. It will contribute to a more smoothly running project and it will help eliminate the need for corrective work later. It will also facilitate communication, easing the strain on the whole process. Confidence is created when people know what they are working towards and how they are getting there, and confidence builds success.

For these reasons planning should be done in proportion to the scale of the project and to the greatest extent that time and budget allow. Planning is a tool and a means to an end, not the end.

The Overall Context

There are many different pressures behind the introduction of automation and technology to museums. Some projects begin as directives from management or auditors to be more accountable or efficient, some will be in response to an internal desire to implement better, more innovative tools with which to conduct the business of the organization and others will be in order to show that the institution is contemporary and cognizant of current technology.

Whether the initiative is from the top-down in the form of a management directive or bottom-up as a staff-initiated plan to change a method of operation, or indeed a public relations exercise, a clear understanding of the context of the project and the influencing factors need to be established. The beginning phase is a time to clearly articulate the desired end-product of the project, gather support and information and find the resources. This is reflected in an overall planning process.

The essential steps in getting started are shown in Figure 13.

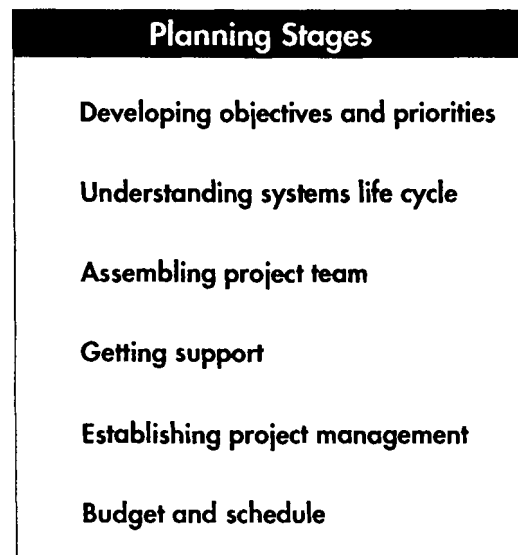


figure 13

Each of these will have their own set of activities that will be occurring in parallel and at different paces. There is no correct way to do this and the various activities, the order in which they are done, and the documentation that is created will vary on a case-by-case basis. It is important to remember that the process will often be disjointed and fragmented and it will almost never be as straight forward as this idealized approach would have it.

Developing Objectives and Priorities

Once a decision to automate is made, it is most important that the nature of the project and its legitimacy be established. Information systems must reflect the aims of the institution and support the pursuit of the institution's corporate plan. There is likely to be little support—financial or otherwise—for projects that don't relate to current objectives and priorities. Without support from management a successful project will be elusive and difficult. Objectives of the automation project should be tied to the mission, objectives and work plans of the organization.

There needs to be staff involvement and it needs to be real and complete not just token.

A technique to help with the preliminary organization is to divide the planning into the areas of political, application, technical infrastructure, organizational, and resource. Each of these have their own kind of importance and must be accounted for in the process of developing the project. These are foundation processes and will re-appear in subsequent steps.

A series of questions can be posed under each of the requirements areas as shown in Figure 14. This illustration supplies an organized framework within which to explore a number of issues. Depending on the circumstances, some questions will be more meaningful than others. Even though some of the questions may remain unanswered or the answers deemed to be irrelevant the process of asking them in a structured manner helps ensure a solid beginning.

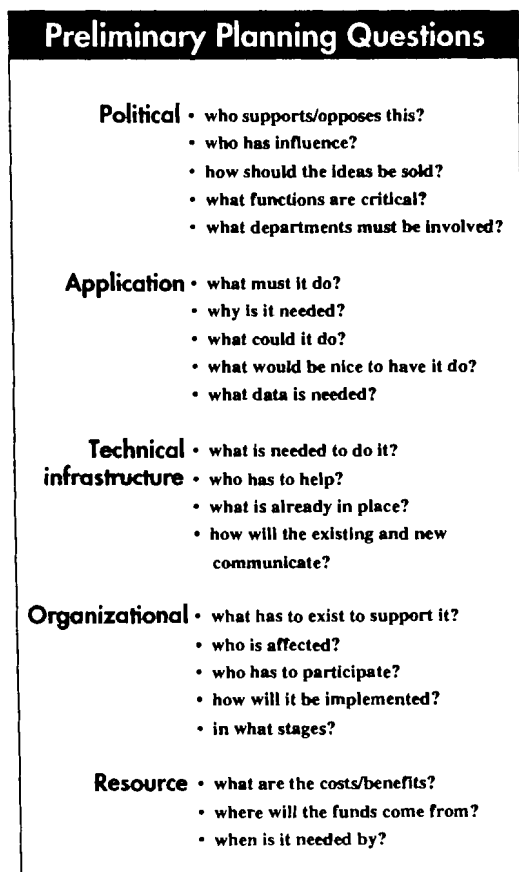


figure 14

The exercise of asking questions in a structured way under these headings should lead to the creation of a simply worded and structured document. This document conveys the essential nature of the project in plain, non-technical terms to the various readers. This document will almost certainly appear in a couple of different forms: one for management, something slightly reworked to go initially to vendors, another for the project team.

There will be answers to some of the questions that may not appear in any public documents but will remain privately recorded, but these still need to be considered in the overall planning.

Figure 15 shows one possible structure.

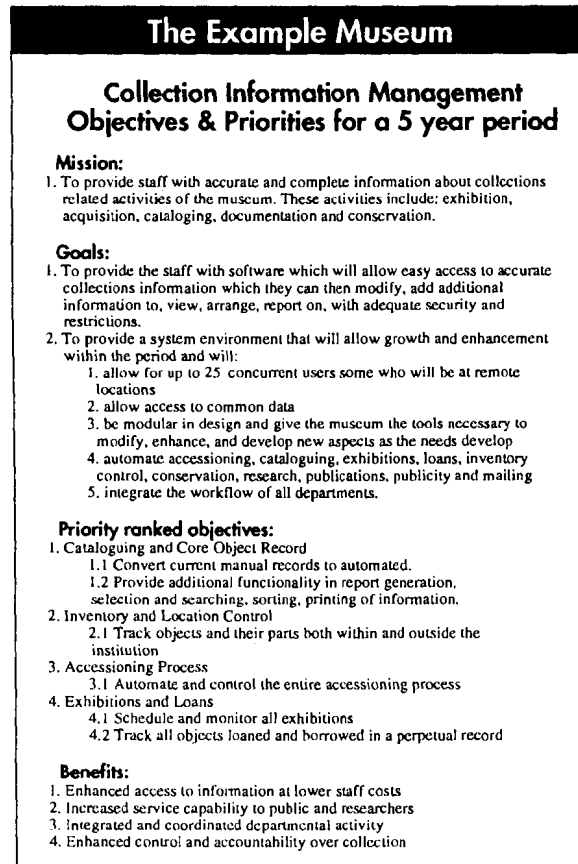


figure 15

Most often the project will go forward, however, there are times when the information generated to this point indicates that automation is not appropriate and the project should wait for changed conditions or the elimination of critical barriers.

The Systems Life Cycle

The process of automation has a well established set of steps that are almost universal in their acceptance by computer scientists and professional application developers. All developers and vendors will follow some variation of this process and it is essential to understand it.

A system is a grouping of parts, processes, functions that together operate to achieve an objective. In our context the system of interest is a museum software application. This system itself is part of a larger system which itself is also part of a larger system.

Usually, only a part of the overall information management needs are addressed at one time by one application or system and so systems have boundaries that define its extent and operating range. Within these constraints one or more applications are developed.

The characteristic system development cycle is shown in Figure 16.

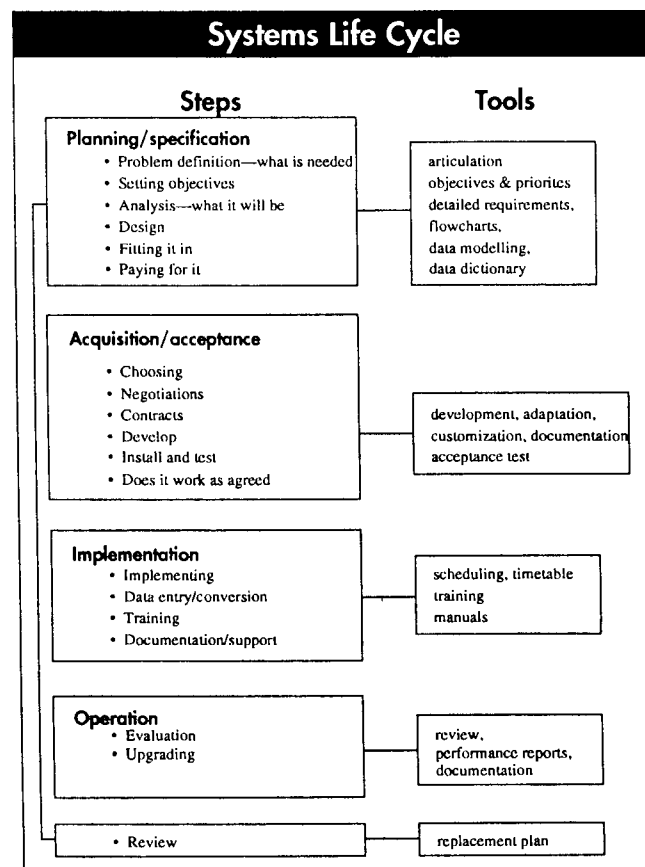


figure 16

Assemble Project Team

Systems development projects need structure and control to be effective. Depending on the magnitude and extent, formal organizational structures should be adopted to the appropriate degree. There are no hard and fast rules to be applied in creating the project team and its size and composition will vary according to circumstances. However, even for the smallest project, the team must have more than one member.

The project should have an articulated mission and recognition of the legitimacy of the project team. Appointments, roles, and responsibilities should be agreed to and articulated by senior management, then notifications made.

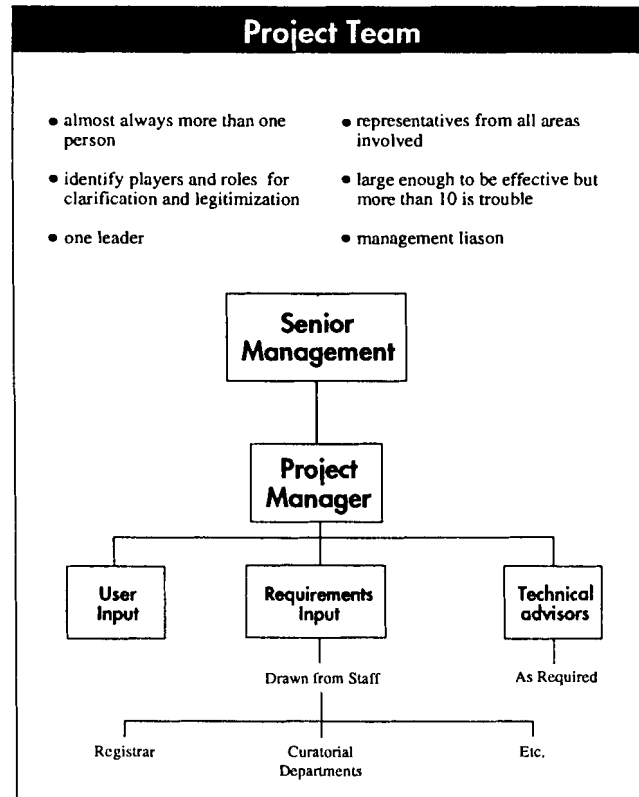


figure 17

Any section, department or museum activity affected by the project should have input into the team. Whether or not this means a seat at the table depends on other factors such as size of the project and available staff.

The group should be large enough to meet representational requirements but not be unwieldy. More than 10 is probably too large and other strategies will need to be employed to ensure representation of interests.

The team needs to develop a methodology and approach to the work. This involves creating workplans for the remainder of the tasks in the systems lifecycle, conducting basic research and information gathering, and establishing evaluation methods and criteria for success.

Consistent and comprehensive reporting is appreciated by all involved and helps ensure that the project remains on track. From the outset reporting frequency and distribution should be considered along with a way of contributing recommendations into the decision process.

The role of project manager is critical and both the position and candidate needs careful consideration. The person chosen needs to have the requisite skill and knowledge to carry the project and these should be commensurate with the scale of the project.

Participants need to have skills and the requisite stature to:

- Define requirements
- Assure political support
- Provide a basis for understanding the process changes required for implementation
- Serve as trained implementation leaders in their own area

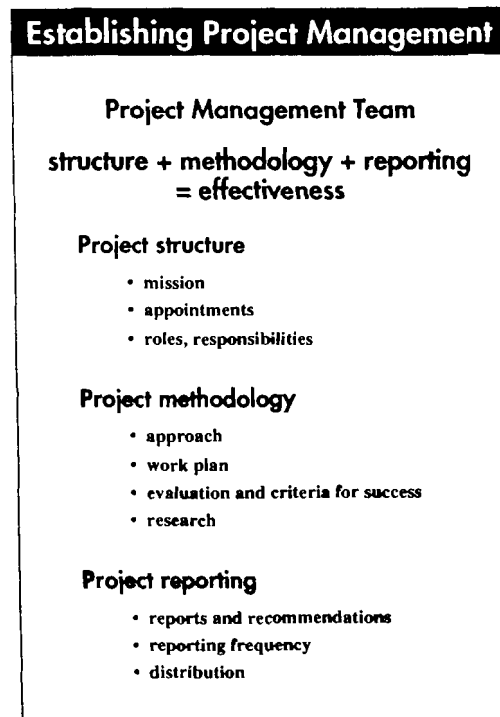


figure 18

This work will be demanding so it needs to be formally acknowledged as an assignment. Trying to squeeze this in to already busy schedules with no adjustments to other duties is **not recommended**.

Getting Support and Approval

Developing systems is time consuming, expensive, and an intrusion into normal operations. During its life the project will need support from a number of sources.

Management support is a very important and should not be underestimated. It is obvious that without management approval any automation project is a non-starter. It is also true that the likelihood of success of a systems development project will increase in proportion to the amount of management support.

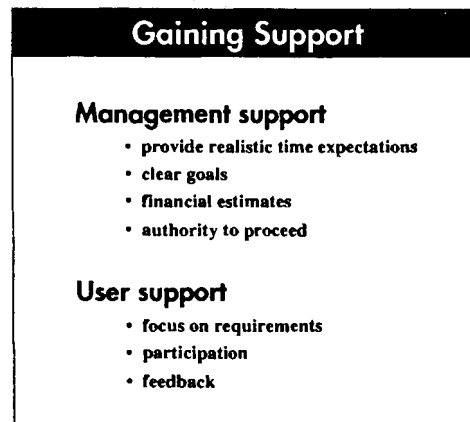


figure 19

The key to management support is to give realistic time estimations of the work. The project team will work from 9–18 months and consume 10–25% of the members' time. It is also very important to give clear goals and objectives. At this point they might be quite general but at least a mission statement is essential. Management is always interested in costs so give preliminary budget ceilings too if possible. Remember to stress that all of these are rough guidelines only and that they will be refined in subsequent stages.

User support is also important to have. Positive, supportive responses need only to be channelled creatively, but it is the hostile respondents or other obstructionists who need careful management. Expect resistance. When something is new people will wonder how it will fit inside the existing. In some cases there will have to be drastic changes to the *status quo*.

Another force to be contended with is the expert *know-it-all* who wants to work outside the process. They should be brought into the project and have their knowledge and energy channelled creatively, but severe cases may have to be contained by other means. Focusing on requirements not solutions is a good way of dealing with the “resident expert phenomenon” since they are usually more interested in solutions.

Consultants can be a great source of help both for the additional expertise they bring but also in establishing credibility with management. Management will often be sceptical or reserved about plans developed entirely in-house, but will be more accepting of the strategies presented by an external advisor.

Workplans and Scheduling

There are two useful ways to show the order and organization of the work to be done: workplans and schedules. These can be used both for organizing the work of the team as well as for reporting purposes.

A workplan is a high-level, overall representation of the project often organized by phases and usually containing information about the project's purpose, participants, timeframe etc. Figure 20 shows an example of this type of plan.

Workplan			
The Example Museum			
DRAFT 1			
DATA DICTIONARY WORKPLAN			
PROJECT	Phase II, Review Draft Data Dictionary		
TIME FRAME	Nov. 1991–Sept. 1992		
OBJECTIVES	<ul style="list-style-type: none"> • Separate content from technical issues in the development of the data dictionary • Obtain review of the data dictionary draft by the project team, technical consultants, content specialists, and other standards development personnel • Edit data dictionary with the results of the analysis 		
PROJECT TEAM	Project Team meets with consultants as needed		
MANAGEMENT & REPORTING:	The Automation Project Manager manages the project under the guidance of the senior management committee. Reports are distributed first to the data dictionary working committee and then to the team as a whole, finally to management.		
TASK DESCRIPTION	RESPONSIBILITY	TARGET	STATUS
1. Team review 1st draft	team	1/15/91	completed
2. DD Working Committee review comments	DD working committee	1/13/92	completed
3. Technical review	Project manager with consultant	3/15/92	
...etc.			

figure 20

Scheduling involves identifying the tasks to be done in each phase of a project and arranging them in a logical sequence for completion within a prescribed timeframe using the available resources. Initial schedules should provide information about how long things will take, what things are happening concurrently or sequentially, who is involved. This is helpful for planning but to be really useful, schedules must be maintained and kept current. Up-to-date schedules will give current information about whether or not the project is ahead or behind schedule, what activities are current, and where resources are allocated.

There are many possible tools for scheduling, from paper and pencil lists to dedicated project management software. Use what is most effective but use and maintain something. Automated project management software may be appealing at first glance but it can require substantial investment in time to learn how to use it and keep it current. Use it if it works.

Schedule												
Resource Schedule by Project												
PROJ:		Example Museum										
Date:		9-Oct-93										
Schedule to:		31-Mar-88										
Proj #	Project Phase	Task No	Description	Due Date	Avail	Days Req'd	Diff.	Latest Start	Team Jack	Team Jill	Status	Notes
1	Professional Work	1100	Exhibition 1	10-Nov-87	-2160	120	-2280	13-Jul-87	5	34	S	
		1200	Exhibition 2	14-Oct-87	-2187	112	-2299	24-Jun-87			O	sick delay
		1300	Staff supervision			24						
		1400	Weekly/Monthly time reporting			9			3	3		
		1500										
2	Vacation	2100	annual vacation			45			15	15		
3	Travel	100	all known travel			14			5	8		
4	Collections Management System	100	General									
		200	Phase 1—Preliminary plan	23-Sep-88	-1842	45	-1887	9-Aug-88			1	
		300	Phase 2—Requirements	25-Mar-89	-1659	200	-1859	6-Sep-88			2	
		400	Phase 3—Acquisition	3-Jul-89	-1539	90	-1649	4-Apr-89				
		500	Phase 4—Acceptance	14-Sep-89	-1486	34	-1520	11-Aug-89			2	
		600	Phase 5—Data Conversion, test	14-Aug-89	-1517	90	-1607	16-May-89			1	
		700	Phase 6—Data Conversion, final	14-Sep-89	-1486	120	-1605	17-May-89				
		800	Phase 7—Implementation	14-Oct-89	-1456	30	-1486	14-Sep-89			1	
		900	Phase 8—Operation	19-Dec-89	-1390	60	-1450	20-Oct-89			10	
									Total Days	28	77	
									Available	8	8	
									% time	-5	-13	

figure 21

Figure 21 shows a schedule format that can be maintained manually or in worksheet format. This provides space for recording the phases and tasks for the project, the estimated days required to complete the task and places for showing the latest start date. The worksheet version automatically calculates whether the project is behind schedule by showing a negative number in the "Difference" column. Also shown under the Team columns (P1 P2 P3) are rough calculations of what percentage of each person's time is committed for the time period indicated. This weighting needs to be adjusted for individual circumstances.

By glancing at the "Status" and "Diff" columns the general state of the project is apparent. This format does not show concurrent tasks or resource conflicts very clearly and needs to be supplemented.

Critical Accomplishments - Initial Phase

- Secure management participation and support**
- Describe the nature and objectives of the project**
- Assemble a project team with a mandate to investigate:**
 - application requirements
 - technical infrastructure
 - organizational requirements
 - resource requirements
- Establish project management**

figure 22

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