

# Project Management Planning

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## Project Plan Format

Initial Release	1.0
Date:	January 1997

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### *The Project Plan Template*



The project plan forms the basis for all management efforts associated with the project. A project plan template is included in this document.

The information contained in this plan is required for IT projects in varying degrees. The actual plan items required are defined specifically in project management policies. The exact format of the information may vary from the template; however, the basic information is required as defined.

This plan template emphasizes documenting only the pertinent information associated with the plan. The blank template for the project plan is provided in Appendix B: *Templates & Sample Forms*.

The information associated with the plan evolves as the project moves through its various stages and is updated as new information is determined about the project.

The plan does not require verbose textual content filled with boilerplate material. Information associated with detailed procedures for executing such processes as technical development, configuration management, and quality assurance should be documented in the state organization's procedures. For example, the configuration management information contained in the plan might reference a procedures document that defines the specific activities and responsibility for each configuration item. The project plan only summarizes who is responsible for the configuration management activities, what is under configuration control, and where the repository will reside.

The project plan documents the project planning process and consists of the following basic tasks:

- Defining the sequence of tasks to be performed.
- Identifying all deliverables associated with the project.
- Defining the dependency relationship between tasks.
- Estimating the resources required to perform each task.
- Scheduling all tasks to be performed.
- Defining the budget for performing the tasks.
- Defining the organization executing the project.
- Identifying the known project risks.
- Defining the process ensuring quality of the project product.
- Defining the process for configuration management.
- Defining the process specifying and controlling requirements.

The plan documents and defines the objectives of the project, the approach to be taken, and the commitment being assumed. The project plan evolves through

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Plan Approval*

the early stages and, at project start-up time, contains the detail required to successfully execute the project. Once project execution begins, the plan should be reviewed, baselined, and updated on a regular basis.

It is important that project plans are approved prior to beginning a project. These approvals should be easily located at the beginning of the plan to emphasize support for the project plan. In the template format, approval signatures are included on the cover of the plan, as shown below.

### Project Management Plan Approval Signatures Form (Page one of the sample)

<b>PROJECT MANAGEMENT PLAN</b>	
Project Name: <u>Document Handling System</u>	
Date: <u>August 1, 1996</u>	
Plan Release #: <u>1.0</u>	
Project Manager: <u>John Smith</u>	
Approvals:	
<u>John Smith</u> Project Manager	<u>Betty White</u> Prime Contractor Manager - If applicable
<u>Tom Snow</u> State Organization Mangement	<u>Steve Brown</u> User Management
<u>Faye McNeill</u> Oversight Manager (if applicable)	<u>Peter Chan</u> DOIT
<u>Gene Tim</u> Department of Finance)	<u>Tina Black (DGS)</u> Other:

# Project Management Planning

---

## Project Plan Format

Initial Release	1.0
Date:	January 1997

---

### *Project Summary*

Following the approvals page, there should be a project summary and charter information that defines:

- The estimated value of the project.
- The project deliverables.
- The duration of the effort.
- The purpose of the project.
- The goals, acceptance, and completion criteria.
- Assumptions made affecting cost and/or schedule.
- Major dependencies/constraints.

The Project Summary, begun at project initiation, is maintained over the course of the project. The first page includes areas that need to be filled in and then updated with each new release of the plan. These include:

- Project name and start date.
- State organization, name, and submitted by.
- Prime Contractor (if applicable) and date awarded.
- Current stage of the project.
- Project status in terms of schedule and budget.
- Budget summary.

Page 2 of the Project Summary includes points of contact and prime contractor information.

The following two pages show a completed sample project summary from the template.

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### 1. Project Summary (Sample)

Information in the project summary areas was started during the project concept phase and should be included here

Project Name:	<input type="text" value="Document Handling System"/>	Start Date:	<input type="text" value="August 15, 1996"/>
State Organization:	<input type="text" value="EDD"/>	Submitted By:	<input type="text" value="John Smith"/>
Prime Contractor:	<input type="text" value="Vision Quest"/>	Date Awarded:	<input type="text" value="June 30, 1996"/>
Current Stage of Project:	<input type="text" value="Development Life Cycle (Design, Development, Integration, Testing or Implementation)"/>		
Project is On Schedule:	Yes: <input checked="" type="checkbox"/>	No: <input type="checkbox"/>	Project is within Budget:
	<input checked="" type="checkbox"/> Details are on page 6		
			Comments: <input type="text" value="Additional funds were needed to add more hardware for statewide rollout"/>
Please answer the following questions by marking "Yes" or "No" and provide a brief response as appropriate			
Is this an updated Project Plan? If so, reason for update: <u>Included additional activities for statewide rollout</u>			Yes: <input checked="" type="checkbox"/> No: <input type="checkbox"/>
Budget for project by fiscal year and is project funded? If so, for what amount(s) and periods(s):			
Budget Amount: 1.2 m	Year: FY 96	Funded?	<input checked="" type="checkbox"/>
Budget Amount: .8	Year: FY 97	Funded?	<input checked="" type="checkbox"/>
Budget Amount:	Year:	Funded?	<input type="checkbox"/>
Total Amount: 2.0 m			

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Project Summary - Continued*

#### **Points of Contact**

*This should be the list of individuals that will be involved with the project during the execution phase.*

Position	Name / Organization	Phone	E-Mail
Project Manager	John Smith EDD	916-692-0962	JSmith@EDD.gov
Senior Management Sponsor	Joe Done EDD	916-752-1666	JDone@EDD.gov
Senior Technical Sponsor	Mary Lane EDD	916-359-0993	MLane@EDD.gov
Procurement Contact	Tina Black DGS	916-425-1254	TBlack@DGS.gov
Customers: Unemployment Audit Compliance	Bill Nick Anne Wright Lance Gonlin	916-694-3442 916-358-6996 916-536-8888	BNick@EDD.gov AWright@EDD.gov LGonlin@DGS.gov
Other Stakeholders (Top 3): Same as above			

#### **Prime Contractor Information**

##### **Company:**

Position	Name	Phone	E-Mail
Project Manager	Betty White	415-664-3229	BWhite@VQuest.com
Senior Management Sponsor	Ned Jack	415-664-3994	NJack@VQuest.com
Senior Technical Sponsor	Bob Bowman	415-664-6421	BBowman@VQuest.com

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Project Charter*

The project charter follows the project summary information. Like the project summary, the project charter information was developed during the project conception and definition phase and includes a business problem, statement of work, objective, success factors, project dependencies, and constraints. In the plan template, this information is contained on two pages or in the following two figures. A sample of the completed information from the template is shown below.

### **2. Project Charter(Sample)**

#### **B. Project Charter: Business Problem.**

*All projects start with a business problem/issue to solve.*

#### **Sample**

The lack of a statewide automated planning system for scheduling transportation road repair maintenance resources has resulted in road closures, duplicated capital expenditures, and increased staff overtime costs.

#### **Statement of Work (Goal).**

*The statement should be short and to the point. It should not contain language or terminology that might not be understood.*

#### **Sample**

Design and prototype an automated, dynamic planning system by Q4, 1997, based on an SQL database and GUI front end. Based on the prototype, pilot the system and complete full implementation by Q4, 1998.

#### **Project Objectives:**

*Provide a brief, concise list of what the project is to accomplish.*

*The project objectives are a detailed version of the statement of work. Taken with the statement of work, the objectives define the boundaries (scope) of the project. The objective statement can also be seen as a decomposition of the statement of work into a set of necessary and sufficient objective statements, including:*

*Outcome - Be specific in targeting an objective*

*Measurement- Establish a measurable indicator(s) of the progress*

*Ownership - Make the object assignable to a person for completion*

*Timeframe - State what can realistically be done with available resources*

#### **Sample**

1. Define the planning requirements for the system by Q2, 1997
2. Define user needs in terms of inputs and outputs by Q2, 1997
3. Conduct user and stakeholder meetings during Q1 and Q2, 1997
4. Develop the prototype and test, with a completion date of Q4, 1997
5. Conduct the pilot of system with completion by Q2, 1998, with the pilot lasting at least three months
6. Complete system acceptance and user documentation by Q3, 1998
7. Complete system installation at all locations by Q4, 1998

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Project Trade Off Matrix and Status Summary*

Managing a project requires the balancing of three factors: resource, schedule, and scope. These three factors are interrelated, i.e., a change in one of them causes the others to change as well. The project trade off matrix shows the relative importance of each factor:

- constrained means the factor cannot be changed
- accepted means the factor is somewhat flexible to the project circumstance
- improved means that the factor can be adjusted.

Also included on this page of the template is a matrix for project status. The matrix reflects whether the technical, schedule, and cost estimates for each task are behind, on schedule, or ahead of schedule. Comments are added for any deviation from the original estimate. For each project, the unique teams or phase should be filled in the appropriate category.

### *3. Project Tradeoff Matrix and Status Summary*

Schedule	Scope	Resources
CONSTRAINED	ACCEPTED	IMPROVED

Identify variable to be CONSTRAINED, IMPROVED, ACCEPTED

+/- Status

Team/Phase	Technical	Schedule	Cost	Comment
Req	On	Ahead	On	Completed this phase ahead of schedule, on budget
Dev Team 1	On	Ahead	On	Completed this phase ahead of schedule, on budget
Dev Team 2	On	On	On	Completed this phase ahead of schedule, on budget
Testing	On	On	On	Cannot be closed until installation is complete
Installation	Behind	Behind	On	Additional pieces of hardware were required to complete statewide rollout causing impact to technical, schedule & cost

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Project Organization*

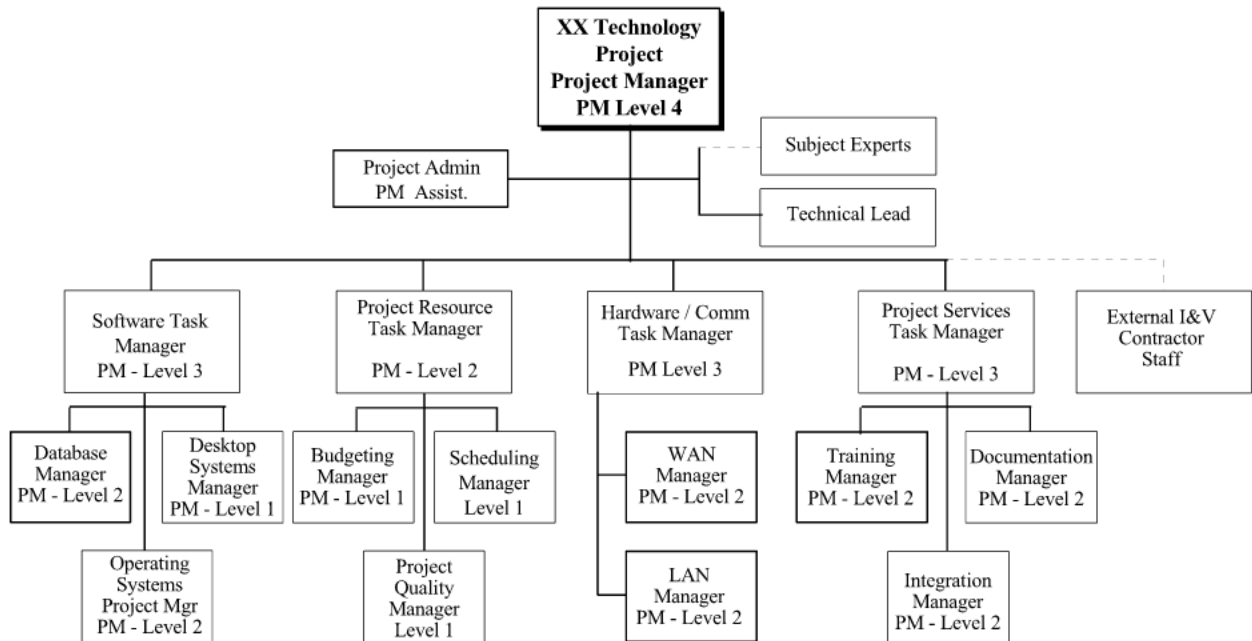
The project plan should include a description of the organization that defines the persons responsible for the following types of functions: project manager, development manager, quality assurance, and configuration management. A project manager is required for every project.

Many plans may also include a narrative of key project member responsibilities. This would include the person's name, project position, and key responsibilities.

Small projects will require less organizational definition than larger projects, but responsibilities should always be defined.

A sample project organization chart is shown in the following figure. Most times this information is graphically presented.

### *4. Project Organization (Sample)*





# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### Activity List

Activity sequencing involves dividing the project into smaller, more manageable components (activities) and then specifying the order of completion. The following figure shows: 1) activities organized in outline form, and 2) activities in graph form.

### 5. Activity List (Sample Work Breakdown Structure)

Provide an activity list (work breakdown structure) that describes each task required by the project, with a reference to the statement of work. For large projects, work packages might be included that describe in detail how specific tasks will be completed by specific project teams. These work packages describe required schedule, identify requirements to be completed and describe specific work to be performed

Activity #	Activity Name	Activity Name Description	# of Days	Start Date	Dependency	Milestone
1	Design	System Architecture	30	9/1/96		Detailed Design
2	Develop	System Development	40	10/1/96	IFS	Software Code
2.1	Code	Code Sub-routine	20			
2.2	Integrate	Integrate Sub-routine	20			
3	Testing	Testing System	30	11/10/96		Completed Accept. test of doc
4	Installation	State Rollout	35	12/15/96		
4.1	Pilot	Pilot Installation	15	12/15/96		
4.2	Statewide	Statewide Installation	20	01/15/96	4.1FS + 5 day lag	Installation Certificate
5	Support	Provides User Support	60	12/30/96	4.1FS	
6	Training	Provide User Training	20	12/15/96	4.1SS	Training Certificate
7	Close-Out	Transfer System to Operations	1	01/30/97	4.2FS + 5 day lag	

Legend:

- FS = The specific task must finish prior to starting the identified task
- SS = Two identified tasks start at the same time, but are not linked to finish at the same time.
- FF = Two identified tasks finish at the same time, but are not linked to start at the same time.
- Blank = Task has no dependency
- Lag = Additional days can be added for reserve to ensure project stays on schedule.

# Project Management Planning

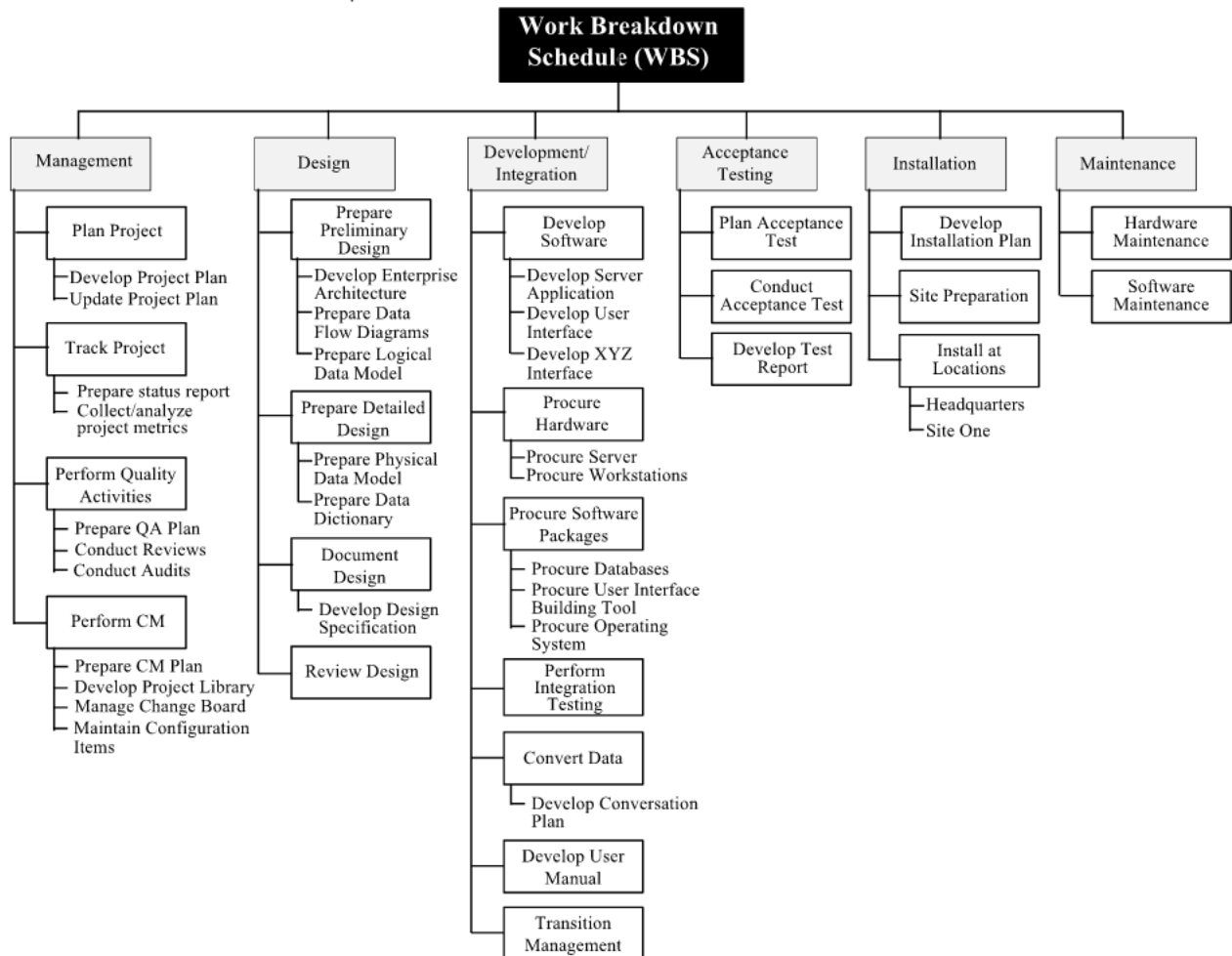
## Project Plan Format

Initial Release	1.0
Date:	January 1997

### Work Breakdown Structure

The activity list can also be graphically presented as a work breakdown structure and included in the project plan. The work breakdown structure, describes each task required in the project. For large projects, work packages, with a description showing how specific tasks are to be completed by specific project teams, may also be included.

These work packages describe required schedules, identify requirements to be completed and describe specific work to be performed. Refer to *Activity Definition and Sequencing* for further information on activity sequencing and development of a work breakdown structure. A sample graphical work breakdown structure is shown in the following figure.



# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### ***Work Product Identification***

The list of project deliverables that includes the date due and the person responsible for the delivery should be part of the plan. This information is derived from the project activity list, and is expanded to include the assignment of the deliverable to a specific author and tracking of delivery of the document. A sample of the Work Product Identification Template is shown below.

### ***6. Work Product Identification***

Provide a list of all deliverables required by the project, the due date and the person responsible for the deliverable.

Deliverable Name	Due Date	Date Delivered	Point of Contact
Design Document	10/1/96	10/15/96	Joe Done
Test Plan	10/1/96	10/15/96	Joe Done
Installation Plan	11/1/96	11/1/96	Terrie Kelly
Source Code	12/1/96		Joe Done
Installation Certificate	1/30/97		Steve Hugh
Training Plan	10/1/96	10/15/96	Tim Wise
Training Certificate	1/30/97		Tim Wise

# Project Management Planning

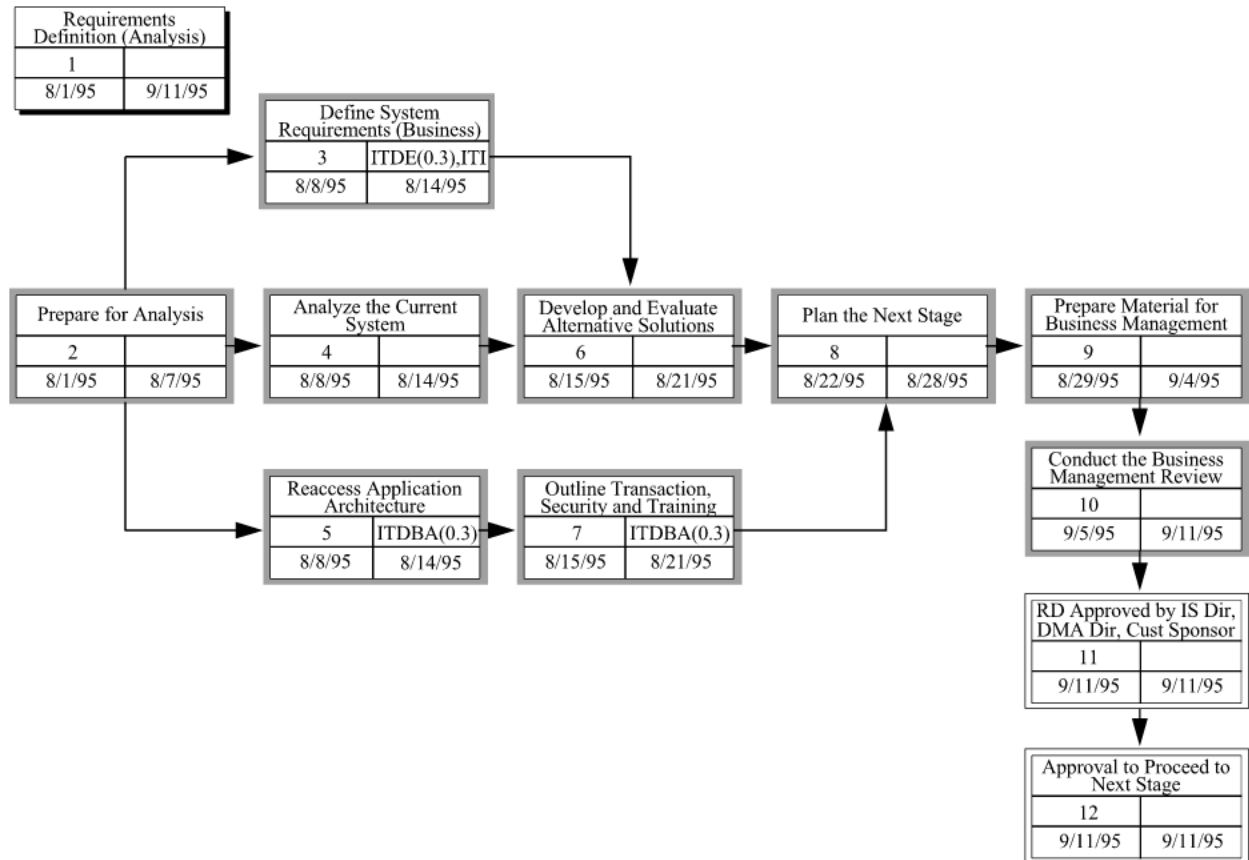
## Project Plan Format

Initial Release	1.0
Date:	January 1997

### Project Schedule

The project schedule included in the project plan can either be a GANTT or PERT chart. It should include milestones, task dependencies, task duration, work product delivery dates, quality milestones (reviews/audits/inspections), configuration management milestones, and action items (with deadlines and responsibilities). A sample project schedule is shown below.

### PERT Chart 7. Project Schedule (Sample)

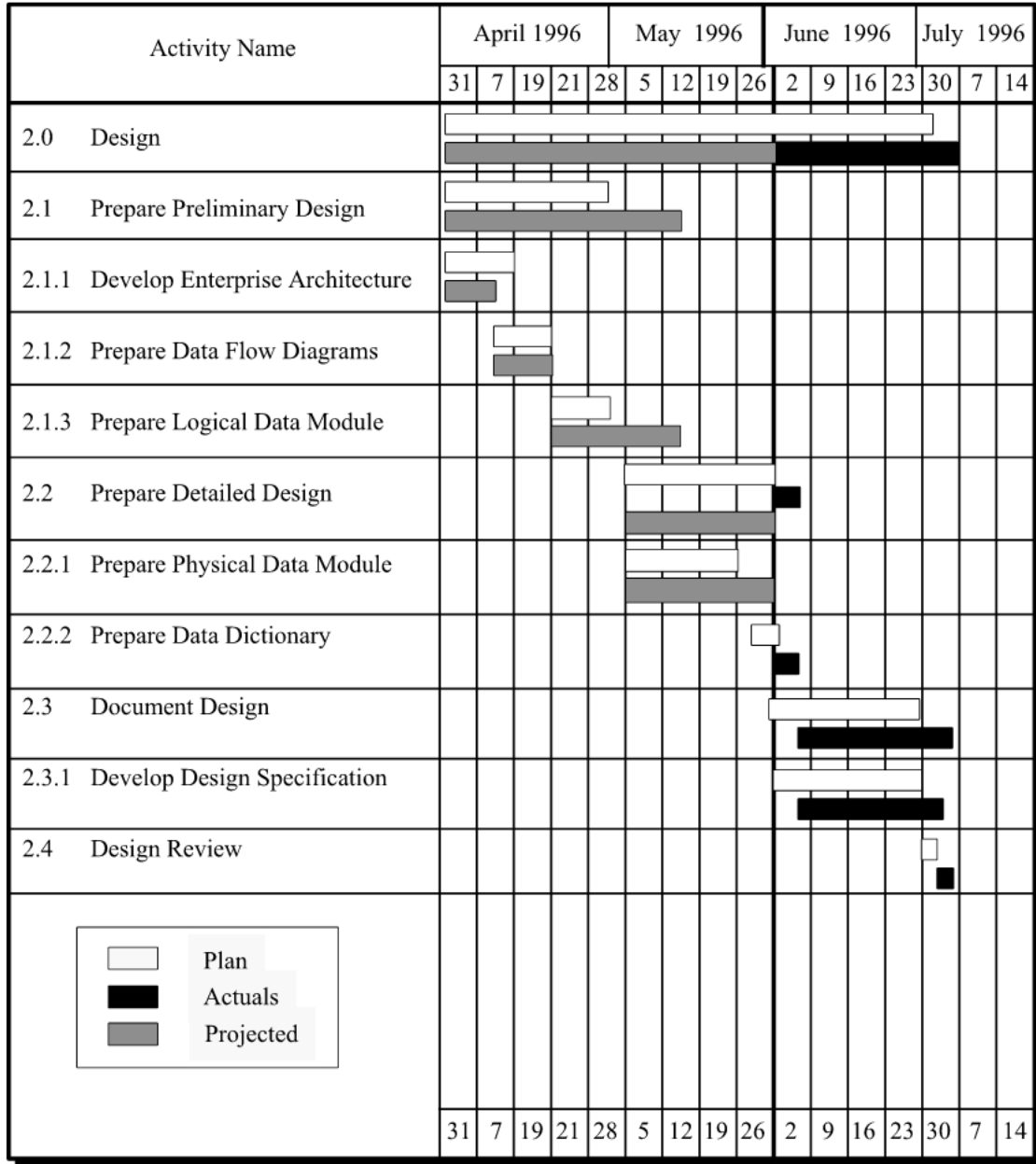


# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### GANTT Chart 7. Project Schedule (Sample)



# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Estimate Cost at Completion*

This estimated cost at completion is an assessment of the total project effort in terms of either time or dollars. The template provides space for both types of analyses.

### *8. Estimated Cost at Completion*

WBS	Activity Description	Analysis in Hours						Analysis in Dollars				
		Res #	Budget hours	Actual hours	Est to Complete	Est @ Complete	Variance (+=More)	Budget hours	Actual hours	Est to Complete	Est @ Complete	Variance (+=More)
2.0	DESIGN											
2.1	Prepare Preliminary Design	3	900	1,150	0	1,150	250	90,000	115,000	0	115,000	25,000
2.1.1	Develop Enterprise Architecture		400	500	0	500	100	40,000	50,000	0	50,000	10,000
2.1.2	Prepare Data Flow Diagrams		300	250	0	250	(50)	30,000	25,000	0	25,000	(5,000)
2.1.3	Prepare Logical Data Module		200	400	0	400	200	20,000	40,000	0	40,000	20,000
2.2	Prepare Detailed Design	5	1,000	640	408	1,048	48	100,000	64,000	40,800	104,800	4,800
2.2.1	Prepare Physical Data Model		600	600	8	608	8	60,000	60,000	800	60,800	800
2.2.2	Prepare Data Dictionary		400	40	400	440	40	40,000	4,000	40,000	44,000	4,000
2.3	Document Design	2	430	0	430	430	0	43,000	0	43,000	43,000	0
2.3.1	Develop Design Specification		430		430	430	0	43,000	0	43,000	43,000	0
2.4	Design Review	10	160									
	Total for the Project		4,820	3,620	1676	5,256	646	466,000	358,000	167,600	525,600	59,600

# Project Management Planning

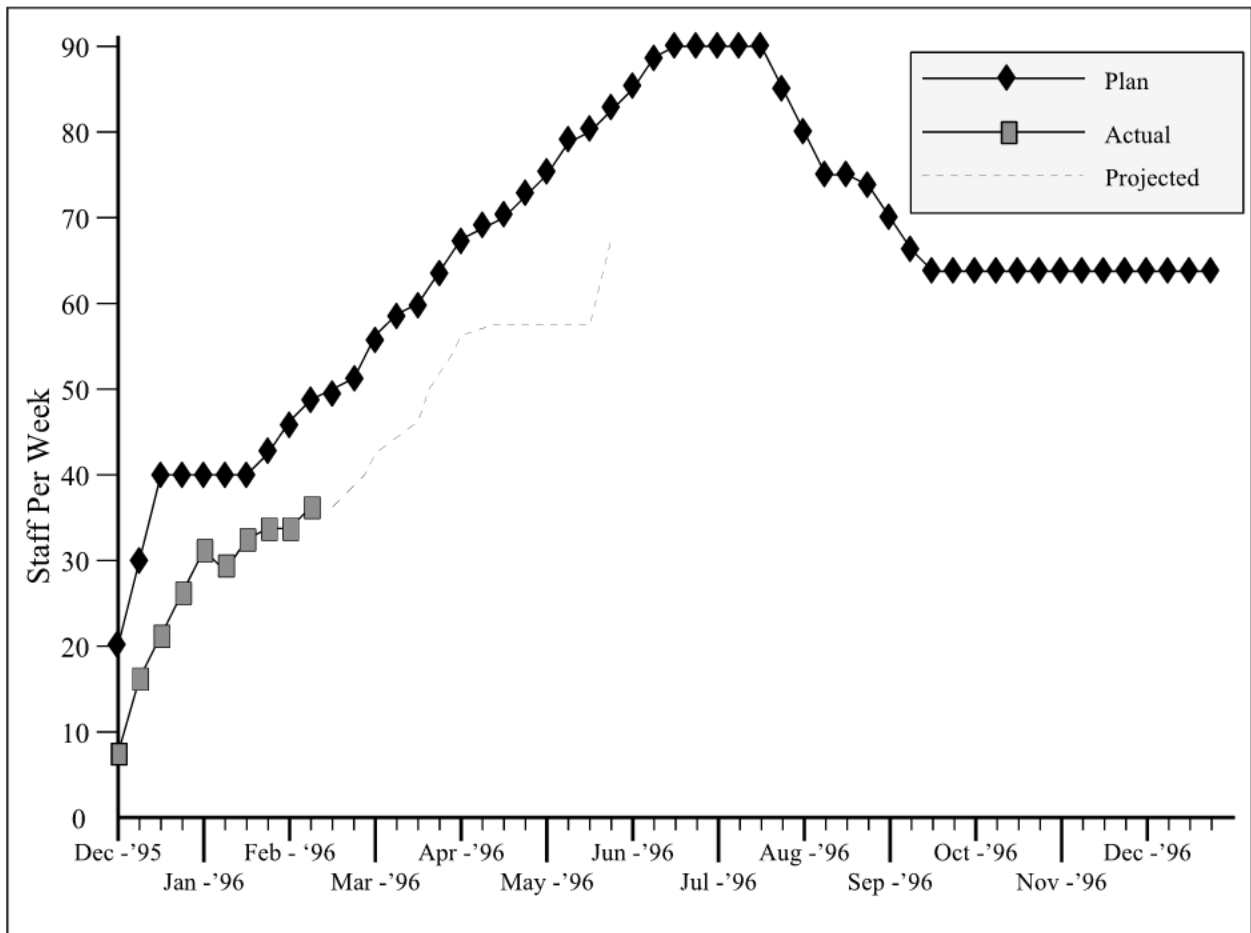
## Project Plan Format

Initial Release	1.0
Date:	January 1997

### Resource Loading Profiles

The staffing plan shows the number of personnel, by type, that are required on the project on a monthly basis. A sample is included. This information is compared monthly on a planned versus actual basis. Refer to the *Resource Planning* section for further information about resource planning. For small 1 - 2 person efforts, a graph should not be necessary.

### 9. Project Staffing Plan (Sample)



# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Project Requirements*

The detailed listing of project requirements, with references to the statement of work, work breakdown structure, and specifications, is included. Refer to *Top-Level Requirements Specification*. A sample listing is shown in the figure below.

### *10. Project Requirements*

No.	Requirement	RFP Reference	SOW Reference	Task Reference	Specification Reference	Completed	Comments / Clarification
1.	The system shall incorporate a well defined help function	2.2.10 2.4.2	S01230	S01230	SSS 3.2.6.4	Yes	
2.	Function key macros and /or other shortcut techniques shall be provided for "power users"	2.2.10	S01230.1	S01230.1	SSS 3.2.6.4	Yes	
3.	The system shall require each user to sign on to the system with a password	2.2.10 2.4.2	S01230	S01230	SSS 3.2.6.1	Yes	
4.	The average response time to all entries shall be 1/2 second or less.	2.2.10	S01230.1	S01230.1	SSS 3.2.6.1	Yes	Yes
5.	Any data item shall only have to be entered once.	2.2.10 2.4.2	S01240	S01240	SSS 3.2.6.1	Yes	
6.							
7.							
8.							
9.							
10.							

SOW = Statement of Work

### *Risk Identification*

A description of the risks identified for the project is included. A risk is



# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

anything that could potentially affect the successful completion of the project. The contractual, management,

and technical risks associated are identified and assessed for the probability of the risk occurring, the cost to correct if the risk occurs, the impact of the risk on the project, and the suggested mitigation activities and cost of mitigation. Refer to *Risk Identification* section for further information.

### 11. Risk Identification

Category	Prob	Imp	Risk	Migation Approaches
MANAGEMENT				
Personnel Availability	High	Med	Personnel developing the sytem did not participate in the design effort, resulting in less understanding of the system functionality	Ensure that specifications/overview documents contain sufficient information to allow new personnel to understand system
Personnel Skills	Low	High	Personnel assigned to project will not have skills to perform work	Since contractor provided quality personnel in design effort, anticipate that skills will be met.
Schedule	Med	High	Completed system (i.e., the system ready for use) not delivered within 18 month timeframe.	Break project into smaller segments to ensure schedule being maintained
Cost	Med	High	Proposed budget does not reflect all required activities.	Review costing to ensure that all state organization activities reflected.
Change Control	Med	Med	System requirements will change during the developement time.	Ensure that a change control process is established that limits changes to those essential to business

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Configuration Management Plan*

The Configuration Management Plan, which defines the person responsible for project configuration management, the procedures used, the planned configuration items, planned release dates for configuration items, and resources required to conduct Configuration Management, is included. This Configuration Management Plan is summarized in a format depicted in the figure below. Refer to the *Configuration Management* section for further information on configuration management planning.

### *12. Configuration Management Plan*

Provide a configuration management plan that defines the person responsible for project configuration management, the procedures that will be used, the planned configuration items, planned release dates for configuration items, and resources required to conduct CM.

CM Responsibility Manager: J. Smith Additional Staff for CM: No additional staff anticipated
---

Procedure Reference: EDD CM-01 to CM-03
---

Configuration Items: Ensure that CM is implemented throughout the project's life cycle.

No.	Item	Comments
1.	System / Management / PPlan	Project Plan
2.	System / Req / Sys Spec	System Specification
3.	System / Test / TPlan	Test Plan
4.	System / Management / TPlan	Implementation

Ensure that project has a repository for storing configuration items and associated CM records. Briefly describe.
---

QA Audits will occur as included on the project schedule
--

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Quality Plan*

The Quality Plan, which defines the person responsible for project quality activities, the procedures used, the planned quality activities, and resources required to conduct QA activities is summarized in the project plan. Refer to the *Quality Plan Development* section for further information on quality planning. The QA Plan is summarized in a format illustrated in the figure below.

### *13. Quality Plan*

Provide quality plan that defines the person responsible for project quality assurance, the procedures that will be used and resources required to conduct quality assurance.

QA Responsibility Manager: M. Anderson Additional Staff for QA: Support needed by lead design and development members
--

Procedure Reference: EDD QA01 to QA-10
--

Planned Quality Event: Ensure the QA is implemented throughout the project's life cycle. Dates include QA audits and reviews, design walkthroughs and other project activities that QA staff will participate in.

No.	Item	Comments
1.	Requirement Review	Due 10/1/96
2.	Code Walk Through	11/1/96
3.	User Interface Prototype	11/15/96
4.	Testing Audit	12/13/96

Ensure that project has a repository for storing configuration items and associated QA records. Briefly describe. QA records are stored w/project CM material
--

Ensure that QA audits the baselines and CM activities on a regular basis. Briefly describe. Defined on detailed schedule
---

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Top Five Issues*

Included is the list of known issues associated with the project, personnel responsible for resolving the issue, and an associated open and close date, with proposed or recommended solutions. See the figure below and refer to the *Change and Issue Management* section for further information about issue management.

### *14. Top Five Issues*

Issue Description	Responsible Individual	Open Date	Closure Date	Status
Change order pending for accounts payable processing	A. Smith	4/5/96		Estimated release date 4/15/96
Enhancement number 1 inactive; requirements still not defined	D. Hall	4/1/96		Awaiting input from Jim who needs to meet with Bob on 3/15/96 and then draft specification
Out of scope item on month end processing must be decided	A. Smith	2/15/96	3/1/96	Determined effort was out of scope. No action to be taken
Configuration Item Status Reporting system not yet installed	B. Jones	1/15/96	1/25/96	System installed and operational. Baselines entered into CM.

# Project Management Planning

## Project Plan Format

Initial Release	1.0
Date:	January 1997

### *Action Item Status*

The plan should include a list of action items, that are maintained as part of project tracking. A sample table is included as part of the template and shown here.

### **15. Action Item Status**

Maintain a list of action items, including a description of the item, a point of contact, a date by which action should be taken and a description of the action taken to close items.

Action Item #	Action Item Description	Responsible Individual	Open Date	Closure Date	Status
0001	Document Flow for hardware acq	R. Smith	8/1/96		Developing Flow
0002	Check status of subcontract agreement	B. Hill	8/2/96	8/4/96	Signed and Executed
0003	Organize team meeting to review support requirements	M. Jones	8/1/96	8/2/96	Meeting scheduled for 8/12/96
0004	Contact W. Smith regarding coordination of delivery	B. Hill	8/3/96		
0005	PMP updates Past Due	C. White	8/4/96		Required by 8/10/96

### **References:**

The template for the Project Management Plan is included in Appendix B: *Templates & Sample Forms*.