

Project Planning

MAE 2250

Phases

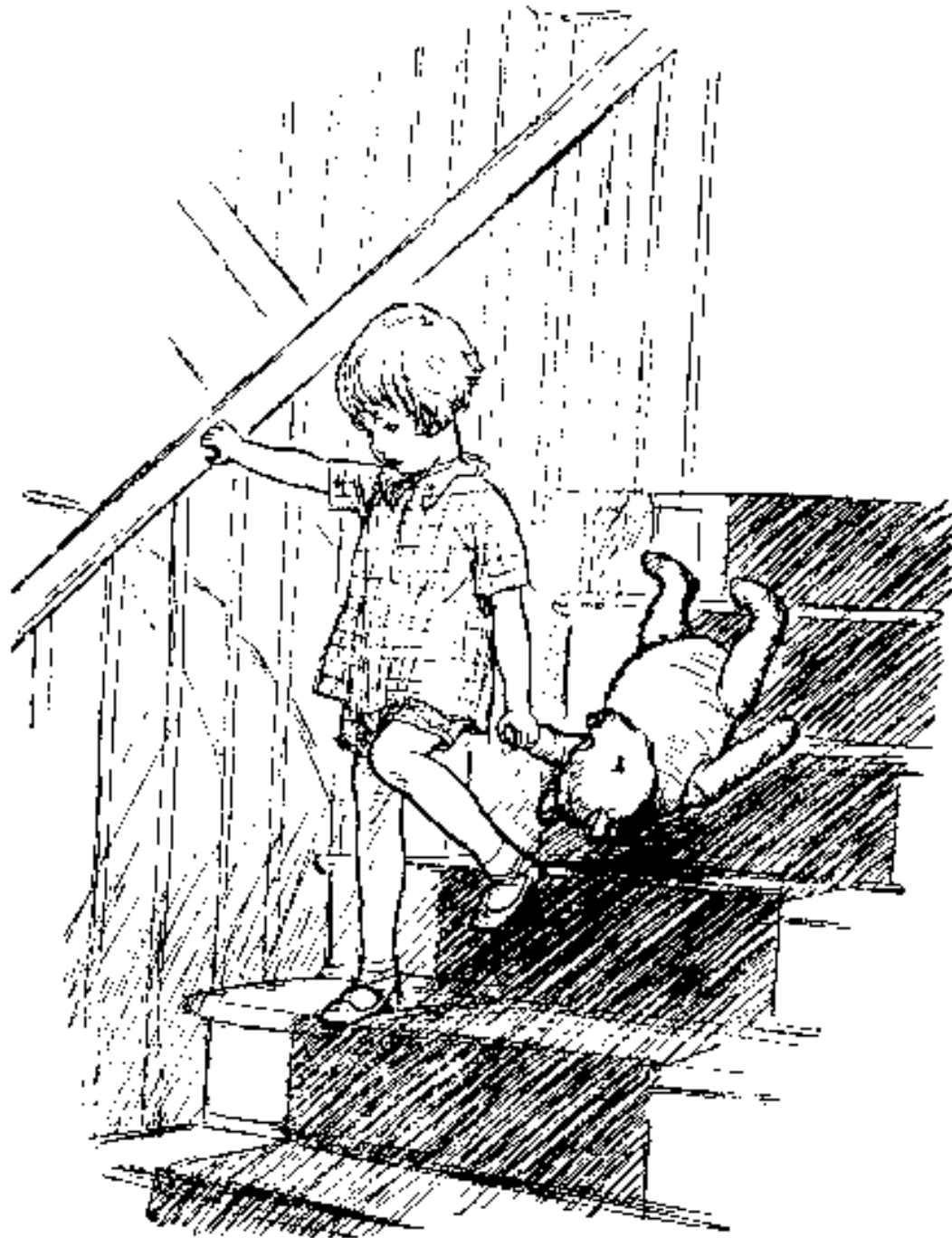
- Phase 0: Planning
- Phase 1: Conceptual design
- Phase 2: System design
- Phase 3: Detail design
- Phase 4: Testing and refinement
- Phase 5: Production ramp-up



Iterate

Needs drive concept generation

- Identify needs
- Establish target specifications
- Generate concepts
- Select concept(s)
- Test concepts
- Refine specs
- Plan project (downstream activities)



Here is Pooh Bear,
coming downstairs,
bump, bump, bump,
on the back of his head,
behind Christopher Robin.

It is, as far as he knows,
the only way of coming
downstairs,
but sometimes he feels
that there really is
another way,
if only he could stop
bumping for a moment
and think of it.

Project Planning

- Identify tasks
- Plan schedules, and
- Identify risks and bottlenecks.

Contract book

- Mission statement
- Customer needs
- Specifications
- Competitive benchmarks
- Concepts [sketches]
- Economic/cost analysis
- Manufacturing plans
- Project plan

Project Plan

- List of tasks
- Design structure matrix
- Team staffing / organization
- Schedule (Gantt / PERT)
- Budget
- Risk areas

Task List

- Level of detail depends on the project size
 - May be hierarchical – single tasks in a large project may involve an entire product development process themselves
- Estimate effort (e.g. person-weeks)
 - from this we will derive duration and staffing
- Determine Dependencies

Dependencies

- Sequential:
 - Receive specs → generate concepts → select concept
- Parallel:
 - Receive concept → design product || find distributors → evaluate cost
- Coupled:
 - Receive concept → (design product, design production) → test

Task

Receive and accept specification

Concept generation/selection

Design beta cartridges

Produce beta cartridges

Develop testing program

Test beta cartridges

Design production cartridge

Design mold

Design assembly tooling

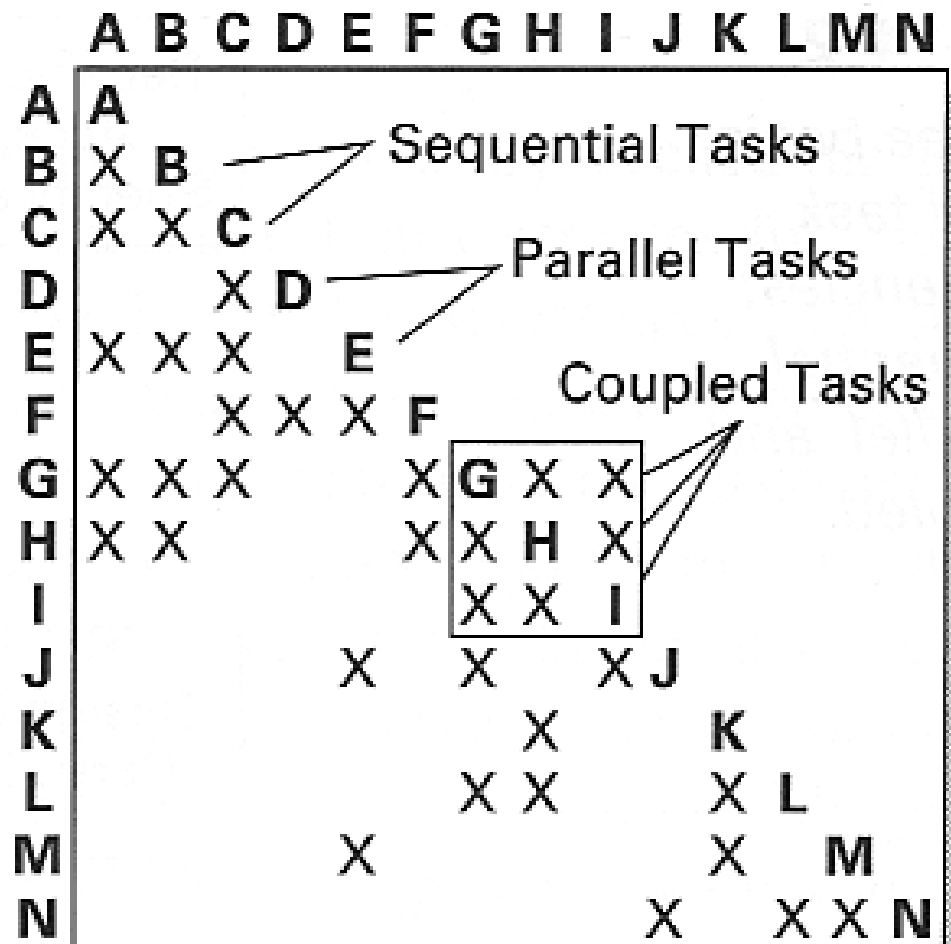
Purchase assembly equipment

Fabricate molds

Debug molds

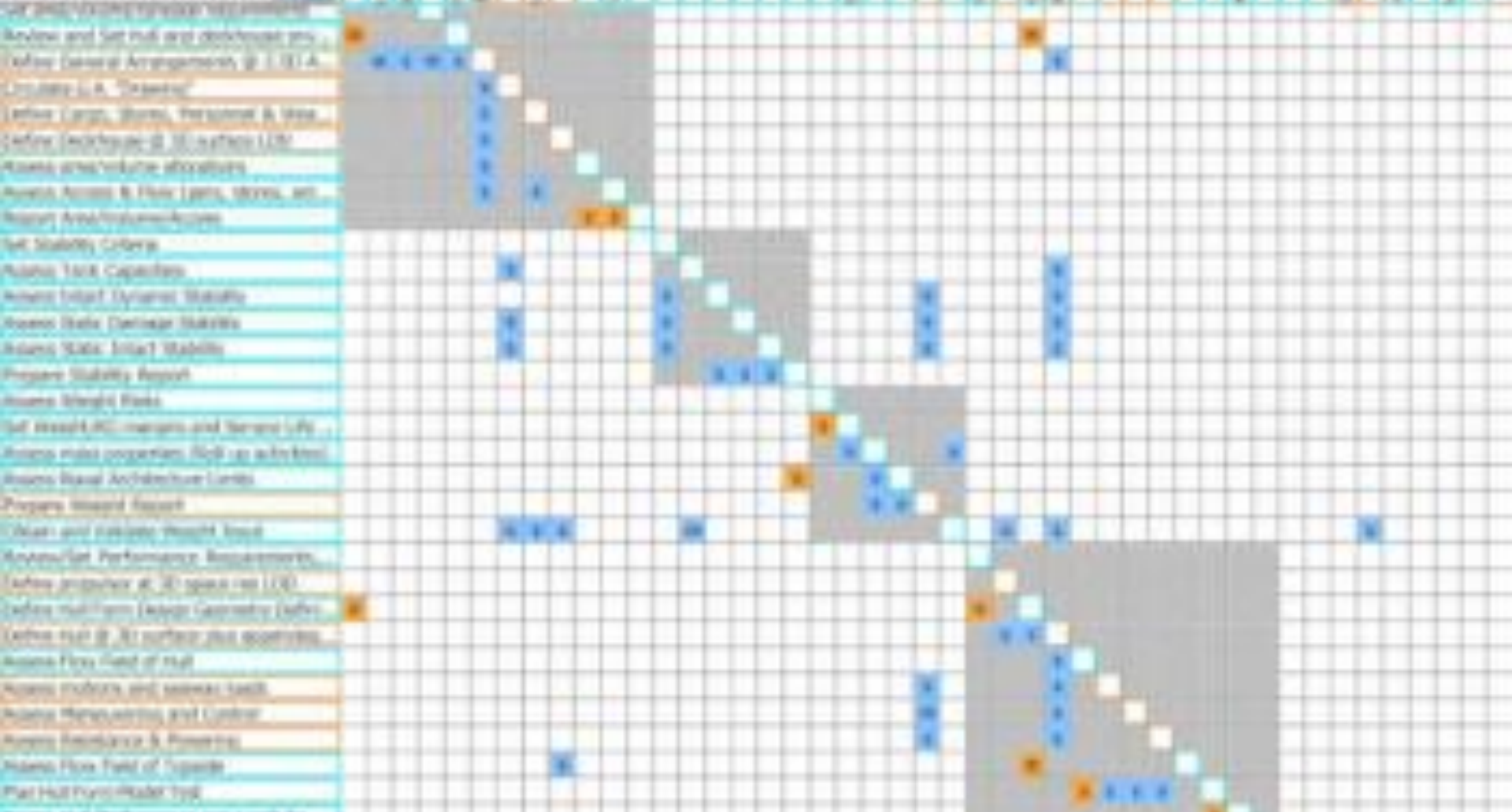
Certify cartridge

Initial production run



Can tasks K,L be done in parallel? A=YES B=NO C=MAYBE

Review and set out grid dimensions and define General Arrangement @ 1:10 A
Country U.K. Drawing
Define Large, Small, Personnel & Misc
Define Windows @ 1:10 within LOD
Room programme allocation
Room Access & Flow (entr, stairs, etc)
Room Architecture/Access
Set Stability Criteria
Define Task Capacities
Room Task Dynamic Stability
Room Static Dynamic Stability
Room Static Inert Stability
Prepare Stability Report
Room Weight Plans
Set Headroom margins and Service Lift
Room main cooperation (Roll up with floor)
Room Basic Architecture Limits
Prepare Weight Report
Check and resolve Weight Load
Room/Use Performance Requirements
Define structure @ 1:20 space on LOD
Define structure (Align Geometry (left)
Define roof @ 1:20 surface plus supports
Room Floor Load of roof
Room Structure and service loads
Room Manufacturing and Control
Room Performance & Finishes
Room Floor Field of Traction
Plan Hall from Model Type





1. The first step in the process is to identify the problem to be solved. This involves a thorough understanding of the requirements and constraints of the system. The next step is to design a solution that meets these requirements. This is done by breaking the problem down into smaller, more manageable tasks. The final step is to implement the solution and test it to ensure it works as intended.

2. The second step is to analyze the problem. This involves identifying the key components of the problem and how they interact. The next step is to develop a plan of action. This involves determining the steps that need to be taken to solve the problem. The final step is to execute the plan and evaluate the results.

3. The third step is to design the solution. This involves determining the architecture of the system and the components that will be used. The next step is to develop the code for the system. This involves writing the programs that will implement the solution. The final step is to test the system to ensure it works as intended.

4. The fourth step is to implement the solution. This involves installing the system and configuring it to meet the requirements. The next step is to train the users of the system. This involves teaching them how to use the system and how to troubleshoot any problems. The final step is to monitor the system to ensure it is working properly.

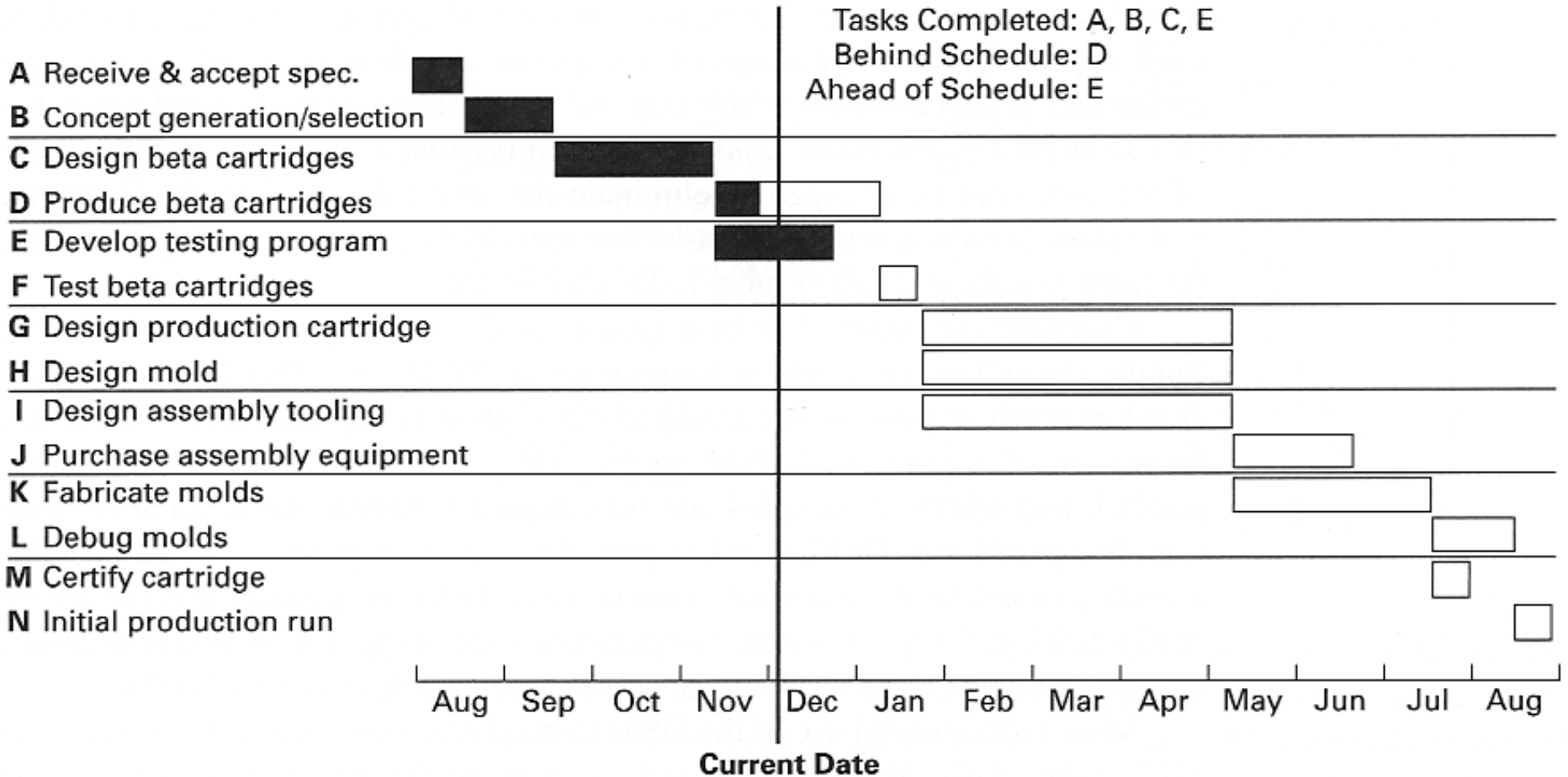
5. The fifth step is to evaluate the results. This involves comparing the actual results of the system to the requirements. The next step is to identify any areas where the system is not meeting the requirements. The final step is to make any necessary adjustments to the system to improve its performance.

6. The sixth step is to document the solution. This involves creating a user manual and other documentation that will help users understand and use the system. The next step is to provide ongoing support for the system. This involves answering user questions and resolving any problems that arise. The final step is to periodically review the system to ensure it is still meeting the requirements.

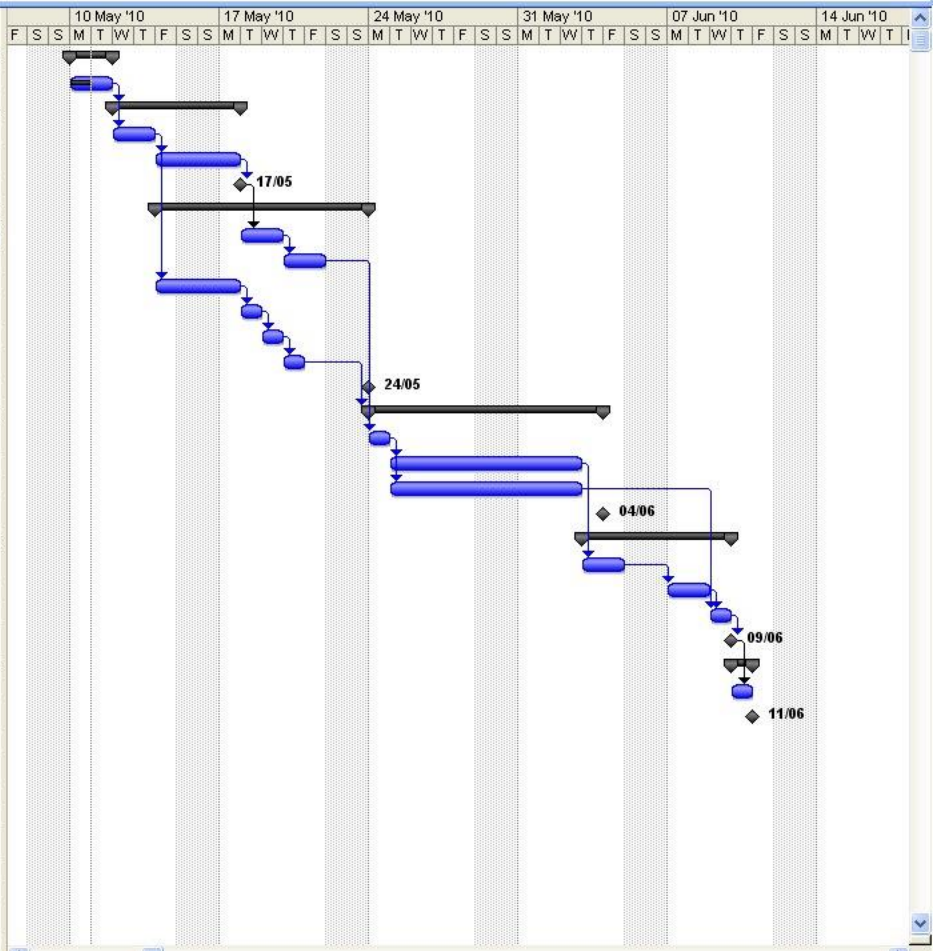
7. The seventh step is to maintain the system. This involves keeping the system up to date with the latest software and hardware. The next step is to backup the system to protect against data loss. The final step is to archive the system when it is no longer needed.



Gant charts



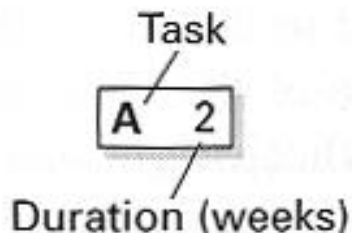
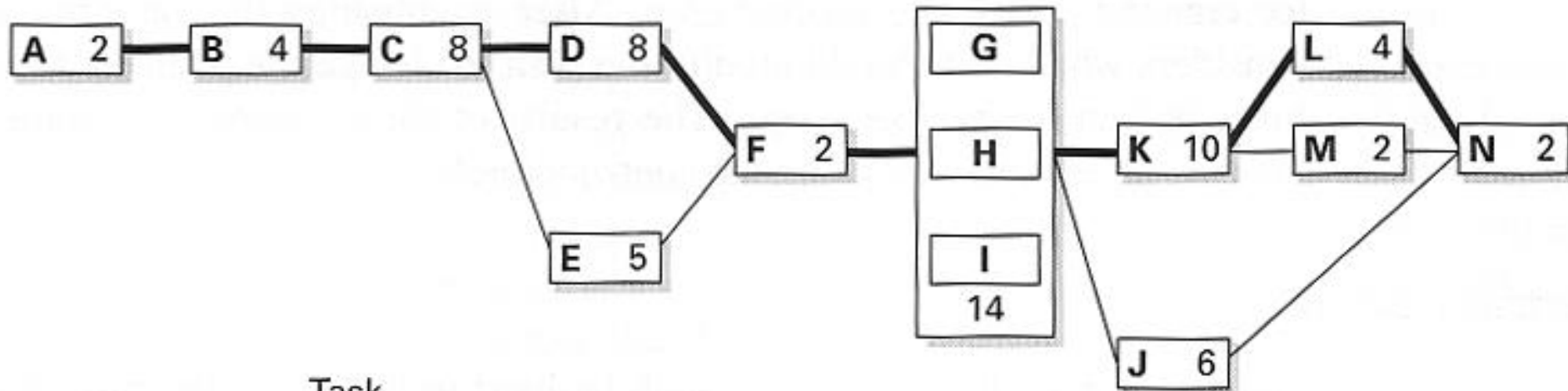
Task Name	Duration	Start	Finish	Predecessors	Resource Names
Identify problems with existing system	2 days	Mon 10/05/10	Tue 11/05/10		philip,computer,
Carry out initial study of what is required	2 days	Mon 10/05/10	Tue 11/05/10		
Analyse the new system's requirements	4 days	Wed 12/05/10	Mon 17/05/10	2	philip,computer,
Project specification	2 days	Wed 12/05/10	Thu 13/05/10	2	
Requirments specification (with design)	2 days	Fri 14/05/10	Mon 17/05/10	4	
complete spec	0 days	Mon 17/05/10	Mon 17/05/10	5	
Design the Game	6 days	Fri 14/05/10	Mon 24/05/10		philip,computer,
Get graphics	2 days	Tue 18/05/10	Wed 19/05/10	6	
Get sound	2 days	Thu 20/05/10	Fri 21/05/10	8	
Create a story board	2 days	Fri 14/05/10	Mon 17/05/10	4	
Create a Class and instance diagram	1 day	Tue 18/05/10	Tue 18/05/10	10	
Create a Data dictionary	1 day	Wed 19/05/10	Wed 19/05/10	11	
Create a test plan	1 day	Thu 20/05/10	Thu 20/05/10	12	
Preperation complete	0 days	Mon 24/05/10	Mon 24/05/10		
Build the Game	9 days	Mon 24/05/10	Fri 04/06/10	13	philip,computer,
Start creating the game	1 day	Mon 24/05/10	Mon 24/05/10	9	
Create the game	7 days	Tue 25/05/10	Wed 02/06/10	16	
Comment code	7 days	Tue 25/05/10	Wed 02/06/10	16	
Game Created	0 days	Fri 04/06/10	Fri 04/06/10		
Testing and documentation	5 days	Thu 03/06/10	Wed 09/06/10		philip,computer,
Test the system	2 days	Thu 03/06/10	Fri 04/06/10	17	
Produce user guide	2 days	Mon 07/06/10	Tue 08/06/10	21	
Produce technical documentation	1 day	Wed 09/06/10	Wed 09/06/10	22,18	
Documentation complete	0 days	Wed 09/06/10	Wed 09/06/10	23	
Review	1 day	Thu 10/06/10	Fri 11/06/10		philip,computer,
Evaluate the project with my client	1 day	Thu 10/06/10	Thu 10/06/10	24	
project complete	0 days	Fri 11/06/10	Fri 11/06/10		



PERT (program evaluation and review technique)

A Receive & accept specification
B Concept generation/selection
C Design beta cartridges
D Produce beta cartridges
E Develop testing program
F Test beta cartridges
G Design production cartridge

H Design mold
I Design assembly tooling
J Purchase assembly equipment
K Fabricate molds
L Debug molds
M Certify cartridge
N Initial production run



Critical Path: 83 Days

