Overview

- The process of making multimedia.
- Scheduling.
- Estimating.
- RFPs and bid proposals.

The Process of Making Multimedia

- Idea analysis.
- Pre-testing.
- Task planning.
- Development.
- Delivery.

Idea Analysis

- Before beginning a multimedia project, it is necessary to determine its scope and content.
- Balance is the key principle in idea analysis.
- The aim is to generate a plan of action that will become the road map for production.

Idea Analysis

- It is necessary to continually weigh the purpose or goal against the feasibility and the cost of production and delivery.
- This can be done dynamically by adding elements to or subtracting elements from a project.

Idea Analysis

- Additive process involves starting with minimal capabilities and gradually adding elements.
- Subtractive process involves discarding unnecessary elements from a fully developed project.

Idea Analysis

Idea analysis involves finding answers to questions like:

- Who is the intended audience? What are their needs?
- What multimedia elements will best deliver the message?
- What hardware, software, and storage capacity would be required?
- How much time, effort, and money would be needed?
- How will the final product be distributed?

Idea Analysis

Project management software includes:

- Microsoft Project.
- Designer's Edge.
- Screenplay System's Screenwriter and StoryView.
- Outlining programs.
- Spreadsheets.

Idea Analysis

- CPM - Project management software typically provides Critical Path Method (CPM) scheduling functions to calculate the total duration of a project based upon each identified task, showing prerequisites.
- PERT - Program Evaluation Review Technique (PERT) charts provide graphic representations of task relationships.
- Gantt charts - depict all the tasks along a timeline.

CPM Chart

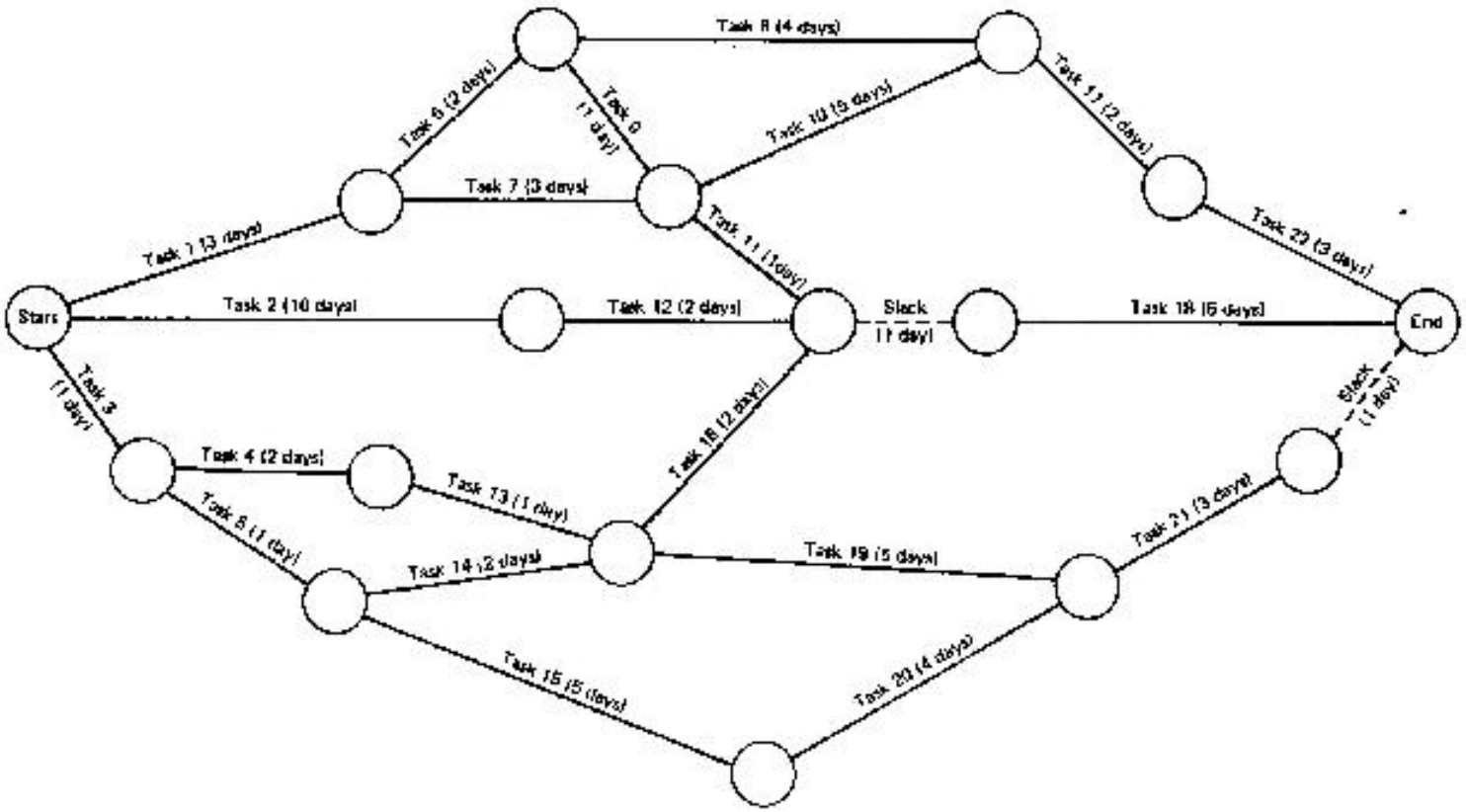
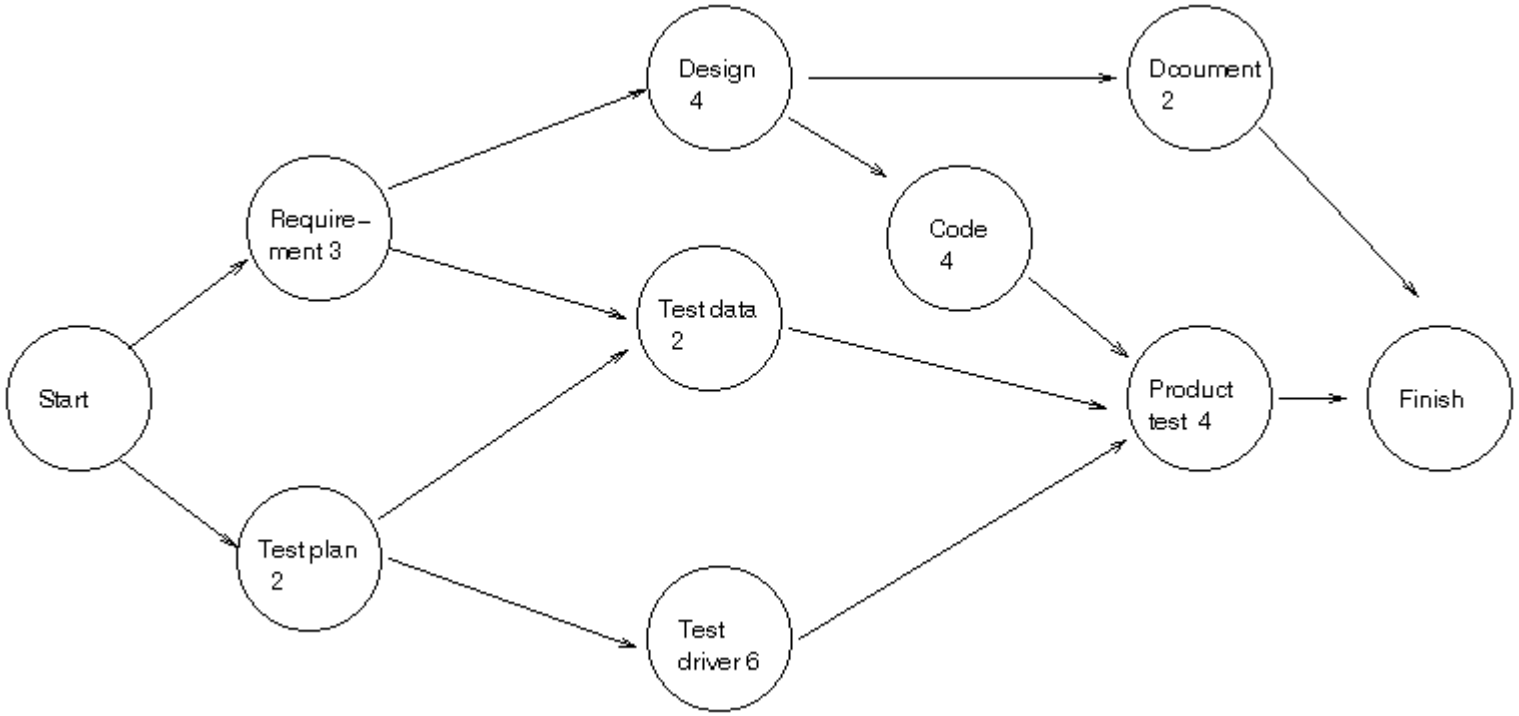


Figure 6-2. PERT chart.

PERT Chart



PERT/CPM Simple

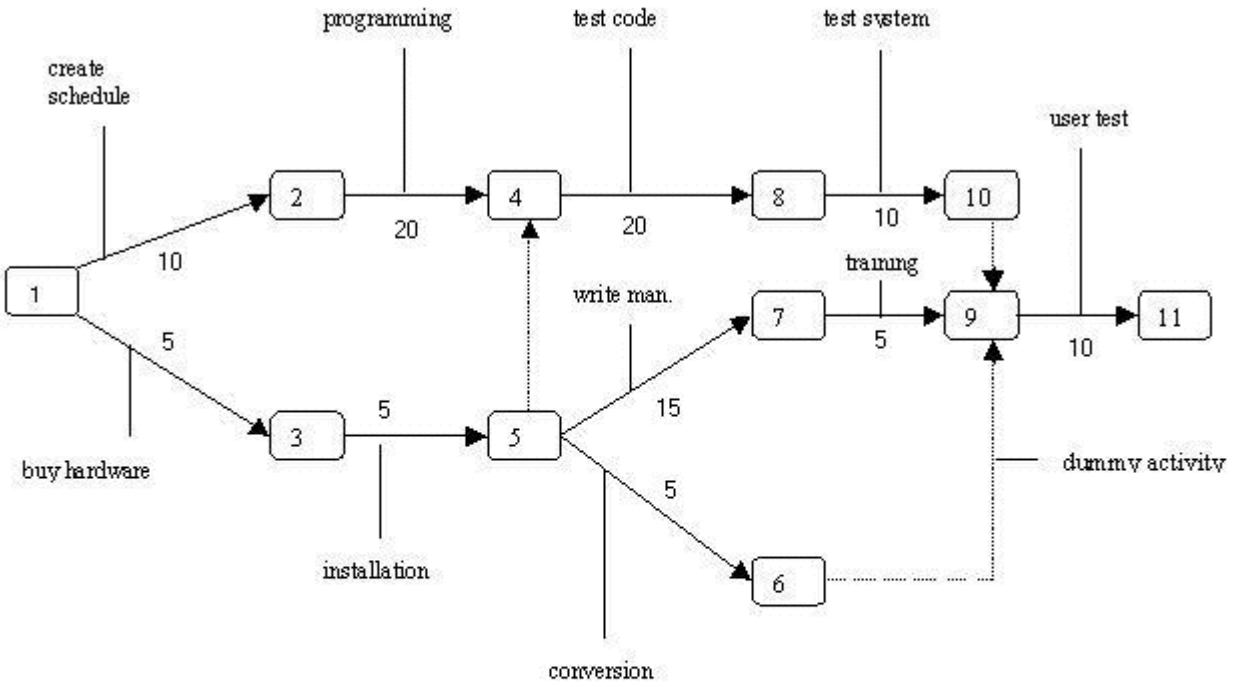
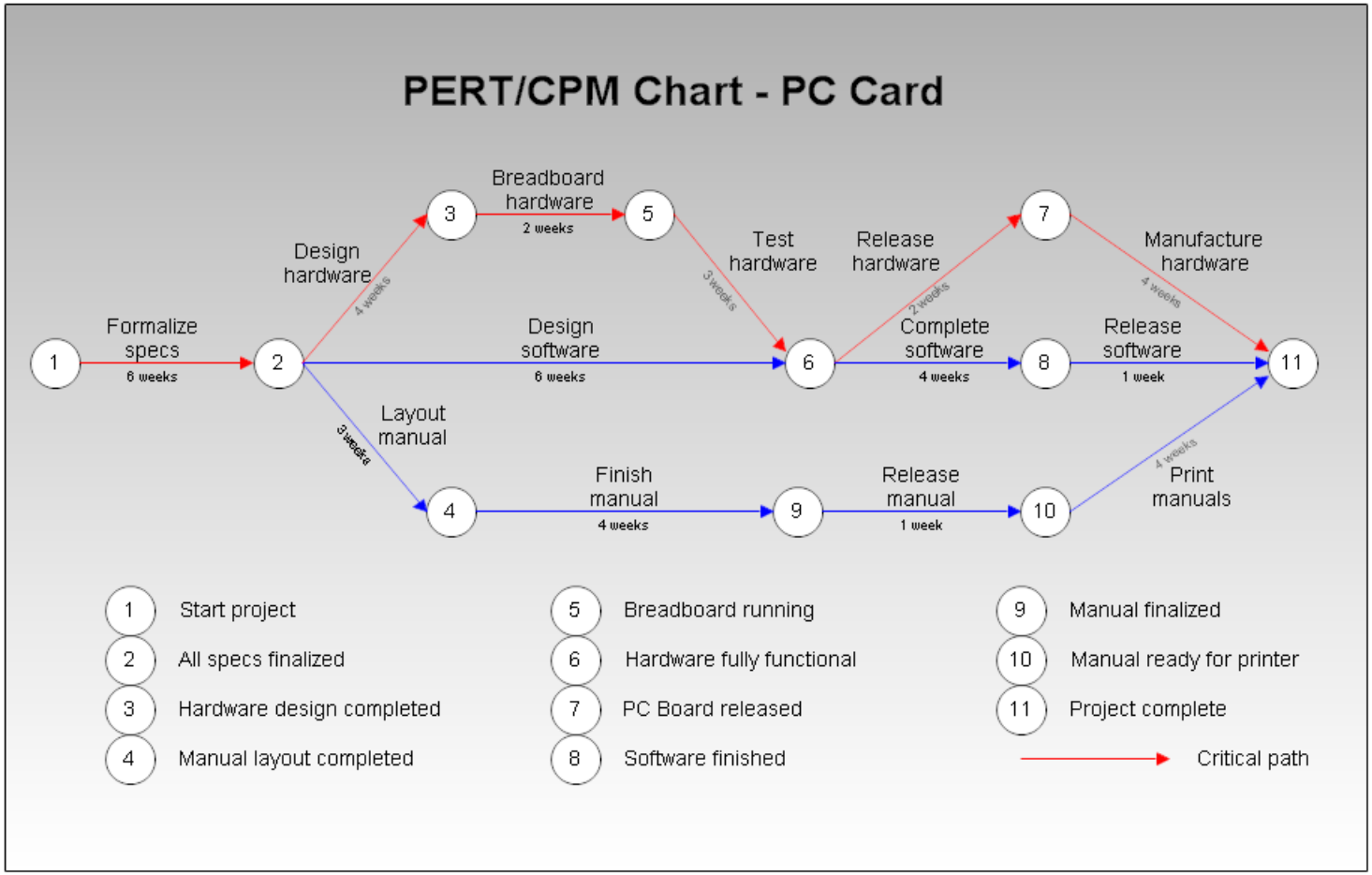


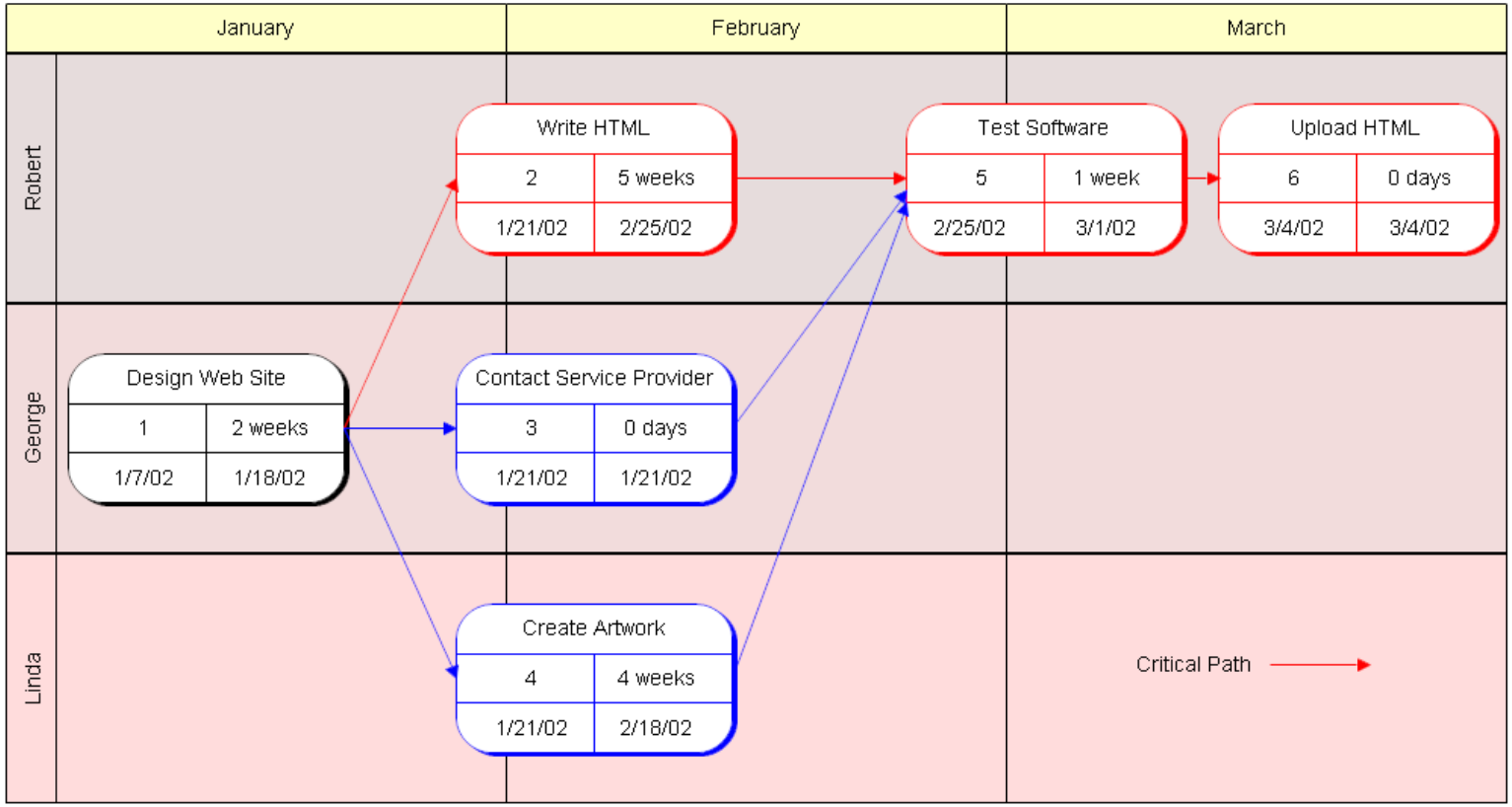
Fig. 1:
PERT Chart

* Numbered rectangles are nodes and represent events or milestones.
* Directional arrows represent dependent tasks that must be completed sequentially.
* Diverging arrow directions (e.g. 1-2 & 1-3) indicate possibly concurrent tasks
* Dotted lines indicate dependent tasks that do not require resources.

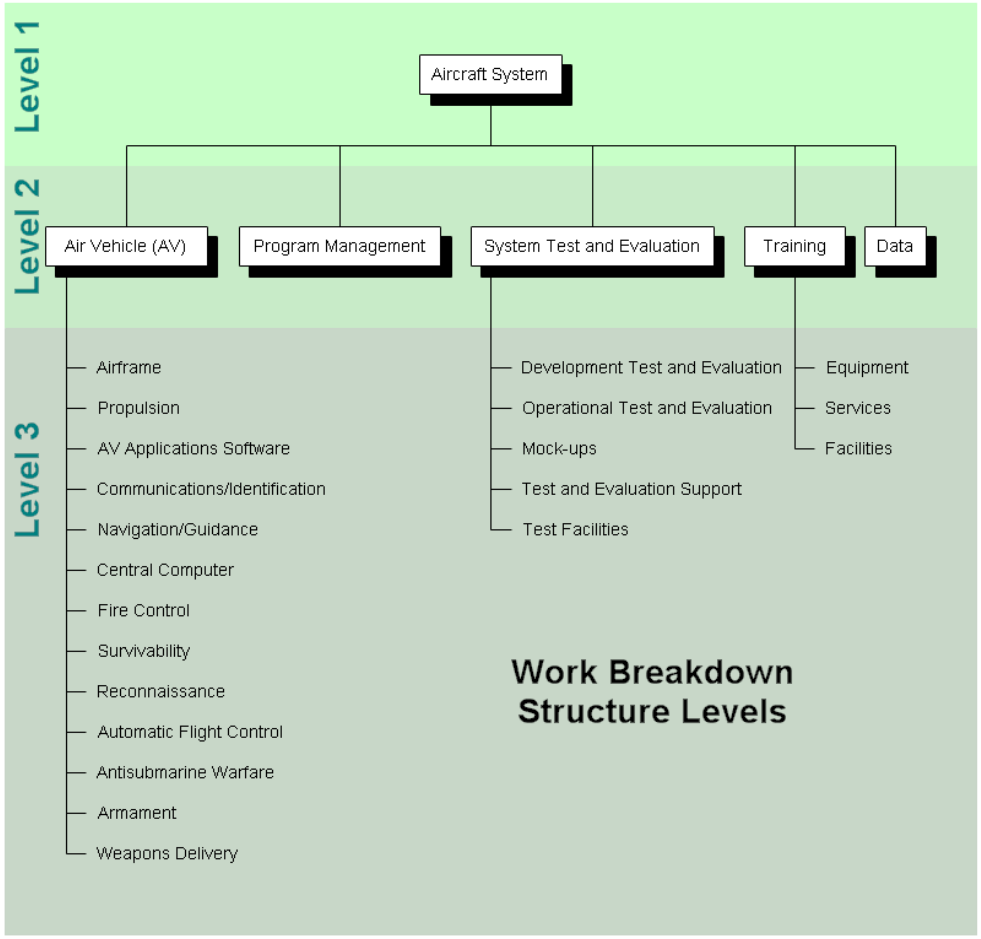
PERT/CPM Hardware



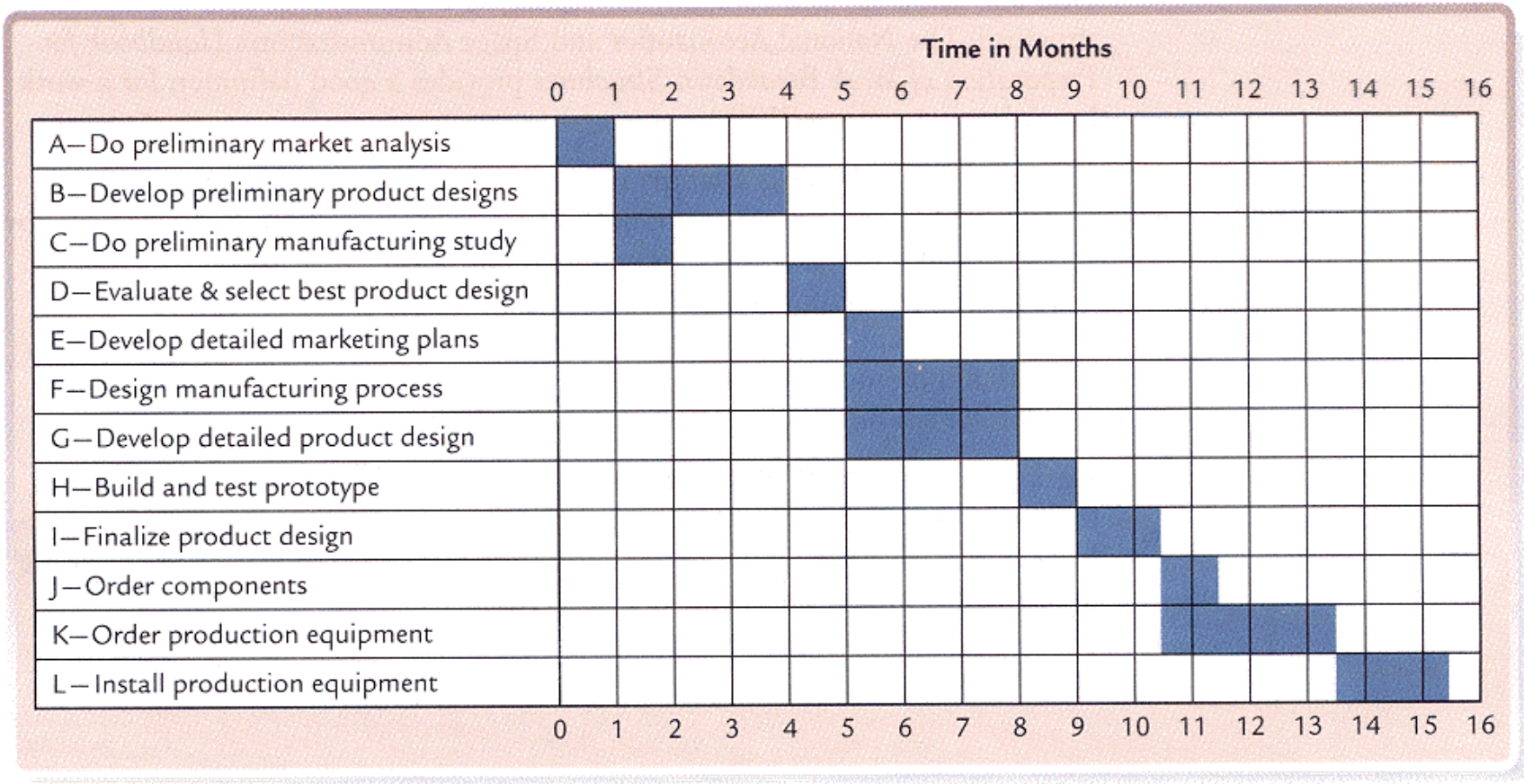
PERT/CPM - Web Site Design Process



Worl Breakdown Structure



Gantt Chart



Pre-Testing

- Involves defining project goals in fine detail and spelling out what it will take in terms of skills, content, and money to meet these goals.
- Work up a prototype of the project on paper to help you relate your ideas to the real world.

Task Planning

Task planning involves:

- Designing the instructional framework.
- Holding creative idea sessions.
- Determining the delivery platform and authoring platform.
- Assembling the team.
- Building a prototype, producing audio and video, testing the functionality, and delivering the final product.

Development

Prototype development:

- Also known as a proof-of-concept or feasibility study.
- Involves testing of the initial implementation of ideas, building mock-up interfaces, and exercising the hardware platform.
- Trial calculations are possible after prototyping.
- A written report and an analysis of budgets allow the client some flexibility and also provide a reality check for developers.

Development

- Alpha development – At this stage, the investment of effort increases and becomes more focused. More people get involved.
- Beta development – At this stage, most of the features of a project are functional. Testing is done by a wider arena of testers.

Delivery

- In the delivery stage, the project is said to be "going gold."
- The concerns shift towards the scalability of the project in the marketplace.

Scheduling

- Milestones are decided at this stage.
- The time required for each deliverable, that is the work products delivered to the client, is estimated and allocated.
- Scheduling is difficult for multimedia projects because multimedia creation is basically artistic trial and error.
- Scheduling is also difficult because computer hardware and software technology are in constant flux.

Scheduling

- Commercial or ‘real world’ considerations
- At this stage, clients need to approve or sign off on the work created. (At various stages throughout project.)
- Any revisions of previously approved material would require a change order. (**Very important!)**

Scheduling

- A change order stipulates that the additional cost of revising previously approved material should be borne by the client.
- When negotiating with a client, limit the number of revisions allowed.

Estimating

- Cost estimation is done by analyzing the tasks involved in a project and the people who build it.
- The hidden costs of administration and management are also included in the cost estimates.
- A contingency rate of 10 to 15 percent of the total cost should be added to the estimated costs.
- Profit is added to the total of these figures (more next week)

Estimating

- Time, money, and people are the three elements that can vary in project estimates.
- The time at which payments are to be made is pre-determined, payments are usually made in three stages.
- Progressive payments may have establishment costs included in first payment.
- Client owns completed work that they have paid for.
- Ownership definition is determined by contract/agreement.

Estimating

- The billing rate should be equal to the total cost plus a reasonable profit margin.
- Typical billing rates for multimedia projects range from $60 to $150 an hour.
- Lower rates do not necessarily imply poor quality of work; they could rather mean lower overheads.
- The demand-supply mechanisms determine the prices.

Estimating

The categories of expenses incurred for producing multimedia are:

- Project development costs.
- Production costs.
- Testing costs.
- Distribution costs.

Project Development Costs

These include:

- Salaries.
- Client meetings.
- Acquisition of content.
- Communication.

Project Development Costs

These include (continued):

- Travel.
- Research.
- Proposal and contract prep.
- Overheads.

Production Costs

Production costs can further be classified as:

- Management costs.
- Content acquisition costs.
- Content creation costs.
- Graphics production costs.
- Audio production costs.
- Video production costs.
- Authoring costs.

Testing Costs

These include:

- Salaries.
- Facility rental.
- Printing costs.
- Food and incentives.
- Coop fees (payment for participation).
- Editing.
- Beta program.

Distribution Costs

These include:

- Salaries
- Documentation
- Packaging
- Manufacturing
- Marketing
- Advertising
- Shipping

Hardware:

- Hardware is the most common limiting factor for realizing a multimedia idea.
- List the hardware capabilities of the end-user's platform.
- Examine the cost of enhancing the delivery platform.
- The most common delivery platforms require a monitor resolution of 800X600 pixels and at least 16- bit color depth.

RFPs and Bid Proposals

Request for Proposals (RFPs):

- These are formal and detailed documents from large corporations who are "outsourcing" their multimedia development work.
- **They provide information about the scope of work and the bidding process**.
- They are generally not very detailed and specific.

RFPs and Bid Proposals

Bid proposals: (in response to RFP)

- Should contain an **executive summary** or an overview.
- The backbone of the proposal is the **estimate** and **project plan**, which describes the **scope** of the work.
- The cost estimates for each phase or deliverable **milestone** and the **payment schedules** should also be included.

RFPs and Bid Proposals

Bid proposals (continued):

- Should contain the graphic and interactive **goals of the project**.
- Prepare a brief **synopsis** if a project is complicated.
- Lists the **terms and conditions** of the **contract**.

RFPs and Bid Proposals

Bid proposals (continued):

- The terms of a contract should include a description of the billing rates, invoicing policy, third-party licensing fees, and a disclaimer for liability and damages.
- Design the proposal according to a client's expectations.
- A proposal should appear plain and simple, yet businesslike.

RFPs and Bid Proposals

Bid proposals (continued):

- A **table of contents** or an index is a straightforward way to present the elements of a proposal in condensed overview.
- **Need** (purpose) analysis and description describes the reasons the project is being put forward.
- It is necessary to describe the **target audience** and the **target platform**.

RFPs and Bid Proposals

Bid proposals (continued):

- Creative strategy – This section describes the **look and feel** of a project. This is useful if the reviewing executives were not present for the preliminary discussions.
- Project implementation – This section contains a detailed **calendar**, **PERT and Gantt charts**, and lists of **specific tasks** with associated completion **dates**, **deliverables**, and **work hours**.

Summary

- Before beginning a project, determine its **scope and content.**
- The process of making multimedia involves idea analysis, pre-testing, task planning, development, and delivery.
- Costs related to multimedia creation are categorized as project **development** costs, **production** costs, **testing** costs, and **distribution** costs.

Materi Bonus

- Materi Bonus “Planning & Costing project”
- Membuat planning dengan Gantt Chart
- Membuat Project Quote

Format of Project Timeline

	Preliminary Development Plan														
			WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	WK12	WK13
Stage	**Task**	**Time**	9/9	9/16	9/23	9/30	10/7	10/14	10/21	10/28	11/4	11/11	11/18	11/25	12/2
Stage 1 Planning and Costing		15days													
		30days													
		20days													
		20days													
		35days													
Stage 2 Design		2days													
		20days													
		15days													
		15days													
		10days													
Stage 3 Testing		5days													
		25days													
		1day													
Stage 4 Delivery		5days													
		5days													
		5days													

Project Timeline using the Gantt Chart format

CP1010: Multimedia Project Planning and Costing

Gantt Charts

- A Gantt chart is a horizontal bar chart developed as a production control tool in 1917 by Henry L. Gantt, an American engineer and social scientist.
- A Gantt chart provides a graphical illustration of a schedule that helps to plan, coordinate, and track specific tasks in a project.
- Gantt charts may be simple versions created on graph paper or more complex automated versions created using project management applications such as Microsoft Project or Excel.

Gantt Chart

Gantt Chart allows

- *'at a glimpse'* recognition of
  - tasks,
  - their timing, and
  - duration
- easily understood and effective representation of tasks that are repeated during the development process.

Time is displayed both in terms of

- the project development cycle, and
- real time.

Developing the Gantt Chart

- Tasks are listed for each stage
- Task-specific time estimates and task-sequences are determined
- Information is entered into the chart by shading in the relevant cells of the table
- Tasks allocated to various teams and/or team members can be indicated (using colour and/or shading).

Structure of the Gantt Chart

- **Horizontal axis** represents the total time span of the project
  - Project time span is broken down into equal increments
  - End of project development indicated by vertical line
- **Vertical axis** representing the tasks that make up the project
- **Horizontal bars** of varying lengths represent the sequences, timing, and time span for each task
  - Bar spans may overlap
  - One task may have more than one bar
  - Secondary bars, arrowheads, or darkened bars may be added to indicate completed or partially completed tasks.

Task Dependencies

- Gantt charts give a clear illustration of project status, but one problem with them is that they don't indicate task dependencies.
- When one task cannot be done until after the completion of another task(s) there is said to be a dependency between these tasks.
- The PERT chart incorporates information about critical paths in the development process in order to illustrate these issues.
- Be aware of this limitation in your planning

Steps to Creating a Gantt Chart

- List all activities required to complete the planned project
- Estimate the time required for each task
- Head up graph paper (or excel spreadsheet or similar) with the days or weeks through to task completion
- Plot the tasks onto the graph paper (or excel spreadsheet or similar)
- Schedule Activities
- Prepare a final version of the Gantt Chart

Project Costing

There are two components that must be considered when preparing a quote for the development of a multimedia project.

- Indirect Costs
- Direct Costs

Indirect Costs

- Also known as ***overheads***
- Costs that are incurred in equipping and maintaining the business

These include the cost of

- hardware and software
- maintaining digital libraries
  - Video, Images, Audio, Font etc
- setting up and maintaining a workplace
  - administration tasks and
  - building costs

Example of Indirect Costs

Indirect Costs:

Overhead (Fixed Expense) Particulars		Cost/ Year
Administration		$30,000
Development Software	Macromedia Director	$1,700
	Macromedia Suite	$1,300
Development Hardware	PC1	$3,300
	PC2	$3,300
Rent and utilities		$3,000
Miscellaneous		$1,000
Total Indirect Costs for year		$43,600
Overhead costs per year/direct labour hour in year		$22.06

Direct Costs

- Those costs directly associated with the project.

- Cost of labour used in producing project.
- Cost of acquiring media specifically for the project
- An accurate project timeline must be developed to calculate labour costs

Example of Direct Costs

Direct Costs:

Role	Staff		Hours	Rate/Hour	Total for Project
Project Manager	1	Budgeted	10	$25	$250
		Actual			
Interface Designer	1	Budgeted	30	$20	$600
		Actual			
Graphic Artist	1	Budgeted	10	$20	$200
		Actual			
Programmer /Coder	1	Budgeted	30	$20	$600
		Actual			
Content experts	3	Budgeted	10	$20	$200
		Actual			
Testing support	5	Budgeted	5	$15	$75
		Actual			
Total Direct Costs			95	$20	$1,925

The Project Quote

1. Work out the Indirect costs associated with the business.
2. Work out the Direct costs associated with the project.
3. Work out the Quoted Price for the Multimedia Project.

Calculating Indirect Project Costs.

- Work out all the indirect costs associated with the business for an entire year
- Add above costs together. [AKA Total Cost]
- Indirect Cost = Total Cost divided by the number of ordinary working hours in a year (approximately 1960 hours [38*52]).
- The ***indirect cost*** (or overhead) is the price of staying in business calculated as a dollar value for ***every hour*** of the business year.
- Indirect Cost ***must be included in the quoted price*** for any projects
- NOTE: Time spent on Administration and other tasks must be included in this costing even if no one is employed to do them.

Calculating the Direct costs

a. Analyzing the project requirements.
b. Listing the tasks that will need to be completed.
c. Deciding who should do each task and inputting the correct charge rate for each team member.
d. Determining how many hours will be needed to complete each task.
e. Using the above figures to calculate the total Direct cost, total hours and the average Direct cost per hour for the project.

Determining the Quoted Price

- The ***Quoted Price*** is the SUM of the estimated figures for:
- Indirect Project cost (Indirect Cost per hour X Number of hours estimated for the project)
- Direct project cost
- Projected Project Profit
  - Profit is usually calculated as a percentage of the combined Direct and Indirect Project costs eg 25% in the following example.

Example of Project Quote

Project Quote:

Budget	Amount
Direct materials - CDs	NA
Direct labour	$1,925
Indirect costs (as per direct labour hours)	$2,096
Sub-total (Sum of above costs)	$4,021
Profit (Sub-total * 0.25 [25 percent profit])	$1,005
Total (Sum of Sub-total and Profit)	$5,026