

Project Planning:

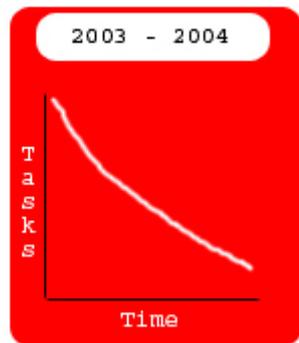
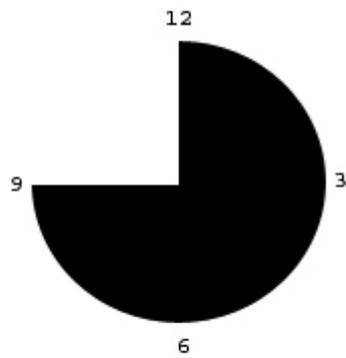
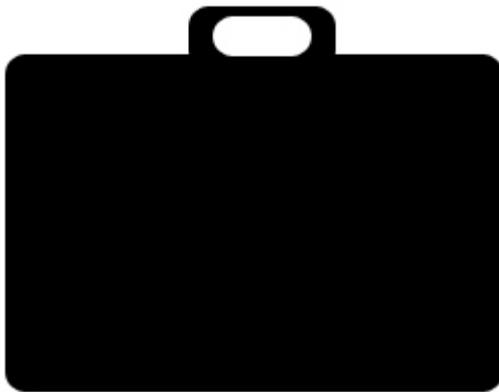


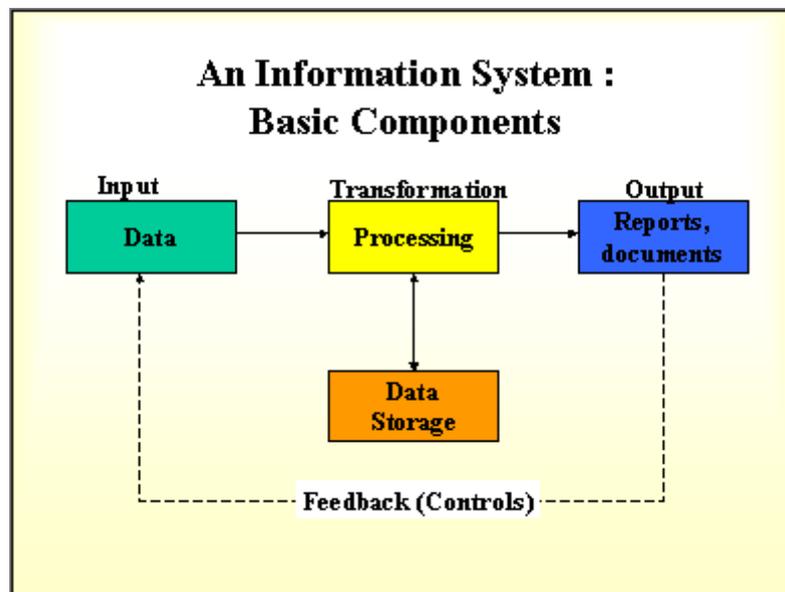
Table of Contents

Table of Contents	2
Management Information Systems	3
Ways to Use a MIS	4
Cognos	5
The Management Cycle	5
Life cycle	7
The external Triangle of Project Management	7
First Planning Tasks	8
WBS – Work Breakdown Structure	8
PERT Charts	9
GANTT Charts	9
Basic Gantt Chart Shapes	11
Arrow on Node Diagram	11
Dependency Network	11
Critical Path Analysis	12
Risks	13
WBS	14
GANTT Chart	15
Network Model	20
Clarification on the PERT Chart	25
Review of Project Planning software	26
SmartDraw	26
Conclusion	26
Personal Conclusion	27

Management Information Systems

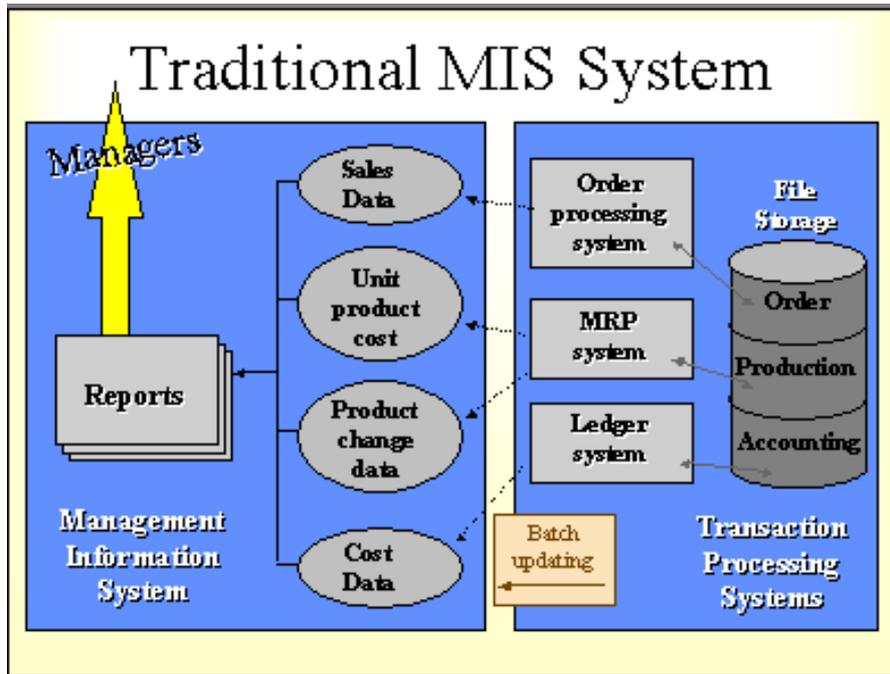
Management Information Systems is the integration of information from a variety of forms and sources calibrated into one software application that anyone anywhere in the world can access. Managers, particularly in making strategic decisions to improve the company's performance and output, use it. There are many software applications available to managers. Only one of them has been chosen to inform the manager of the commercially available product, what it can be used for and what can be achieved by using it.

An "Information System" consists of all the Ways, Tools, and Media in which Information is Captured, Collected, Stored, Retrieved, Communicated and used Common features.



There are different types of Information Systems:

- Transaction Processing Systems (TPS)
- Office Automation Systems (OAS)
- Management Information Systems (MIS)
- Decision Support Systems (DSS)
- Expert Information Systems (EIS)



Ways to Use a MIS

Operation level

- Processing transactions
- Updating files
- Output simple reports or documents

Tactical level

- Analyses of data
- Uses externally generated data
- Uses informal systems
- Produces tactical information

Strategic level

- Informal information systems
- More human judgement than programming

Cognos

Cognos, the world leader in business intelligence (BI), delivers software that helps companies improve business performance by enabling effective decision – making at all levels of the organization. A forerunner in defining the BI software category, Cognos delivers the next level of competitive advantage – Corporate Performance Management (CPM) – achieved through the strategic application of BI on an enterprise scale.

Successful companies use Cognos business intelligence to make the best decisions for the business. As they extend better decision-making company-wide, Cognos customers achieve a new level of effectiveness. But achieving consistent high-performance requires a new approach to performance management, a whole-company management approach. This is the promise of corporate performance management (CPM).

As defined by Gartner, CPM encompasses the methodologies, metrics, processes, and systems used to monitor and manage the business performance of an enterprise. CPM lets an organization measure actions against its unique business strategy. In this way, corporate performance management ensures strategy and action are aligned at all levels, across the enterprise.

Business strategy drives all actions, from resource allocation to the measurement of key performance indicators. Everyone understands where the organization is headed, the key milestones marking its progress, and the performance that is expected. People have ready access to information on which to base their decisions, and take actions that have an impact on the company's overall success. They are plugged in to the direction of the company. They reflect this direction in how they do their jobs. In this way, strategy and action become aligned.

The Management Cycle

All companies engage in a management cycle of planning, budgeting, reporting, analysis, and score carding. However, these elements are rarely coordinated or consistently applied. Often, they are supported by disparate systems.



Plan

Organizations build a plan, sometimes formally, sometimes informally.



Budget

Organizations assign resources (money and people) to the plan with a budget. This is not necessarily linked to strategy, it can be simply a compliance-driven process driven by the finance department.



Execute

Managers throughout the organization assess day-to-day execution, and tweak the business according to information about opportunities, threats, strengths, and weaknesses.



Report

Across the organization, people report on activities and scorecard how the business is doing.



Analyze

Across the organization, people analyze to find out what went right and what went wrong, what needs to be changed. This leads us back to amending the course, as found in Planning.

What's missing from the way most organizations manage the business is a viable framework for corporate performance management.

With CPM, people, information, and decision-making are linked throughout the organization, building a high-performance decision culture. Cognos brings these elements together through its support for the complete management cycle. Cognos fulfils the promise of CPM with a comprehensive framework to address the entire management cycle.

This framework enables the complete management cycle with software for planning, budgeting, reporting and analysis, and score carding, and links people, information, and decision-making processes throughout the organization.

The Cognos solution is flexible enough to be implemented quickly in one department, and then extended incrementally to enable CPM across an entire global enterprise. It leverages your existing investment in data resources.

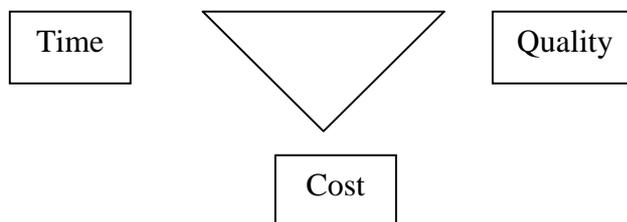
Life cycle

A typical project life cycle will involve:

- Initiation (The idea)
- Feasibility study (Is it possible)
- Specification
- Design
- Implementation
- Operation (Build phase)
- Review

The external Triangle of Project Management

The three main areas that make up a project are time, cost and quality. This can be shown in a triangle like the one below:



If the cost is the most important factor then the variables will be time and quality.

Basic principles of costing

A Project Manager needs to understand the basic principles of costing enabling them to:

- Prepare a complete plan in sufficient depth
- Monitor the expenditure throughout the life of the project

This knowledge will therefore enable an accurate estimate of the costs to be provided for the client, which should mean that the project is less likely to go 'over budget' (Unless changes are made and the budget is not revised).

The organisation should already have detailed costing figures available for most standard items such as:

- Daily/Hourly direct wages and salaries costs
- Daily/Hourly support costs (Secretaries etc)
- Daily/Hourly machine costs (per machine, computer etc)
- Daily/Hourly fixed costs (Rent, Rates, LH&P, Ins, etc)
- Daily/Hourly general overhead costs

These figures can be incorporated into the specific project costing exercise for inclusion in the Project Plan.

Costing the plan is one of the 'major' functions that has to be carried out for every project without it one of the three corner stones of project planning has no starting point or financial objectives.

First Planning Tasks

- Determine the parameters
- Clearly identify all the individual tasks – break them down into small manageable pieces
- Identify the resources required
- WBS – Work Breakdown Structure
- PERT Charts
- GANTT Charts
- Dependency Networks

WBS – Work Breakdown Structure

The project is broken down into task areas and job headings.

PERT Charts

This is where the major headings are broken down into tasks and the amount of time needed to undertake the particular task is identified. Also, resources from other non-critical tasks can be moved into critical tasks to help it if it has fallen behind.

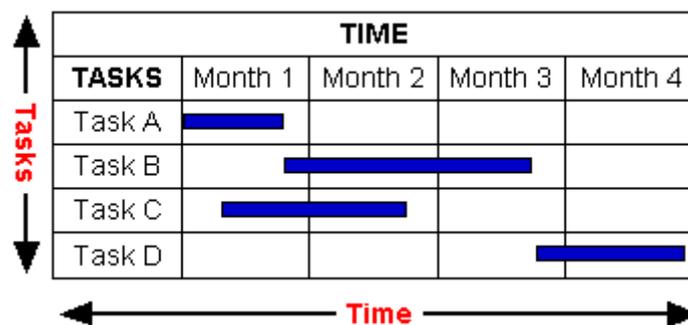
Program evaluation and review technique (PERT) charts depict task, duration, and dependency information. Each chart starts with an initiation node from which the first task, or tasks, originates. If multiple tasks begin at the same time, they are all started from the node or branch, or fork out from the starting point. Each task is represented by a line, which states its name or other identifier, its duration, the number of people assigned to it, and in some cases the initials of the personnel assigned. The other end of the task line is terminated by another node, which identifies the start of another task, or the beginning of any slack time, that is, waiting time between tasks.

Each task is connected to its successor tasks in this manner forming a network of nodes and connecting lines. The chart is complete when all final tasks come together at the completion node. When slack time exists between the end of one task and the start of another, the usual method is to draw a broken or dotted line between the end of the first task and the start of the next dependent task.

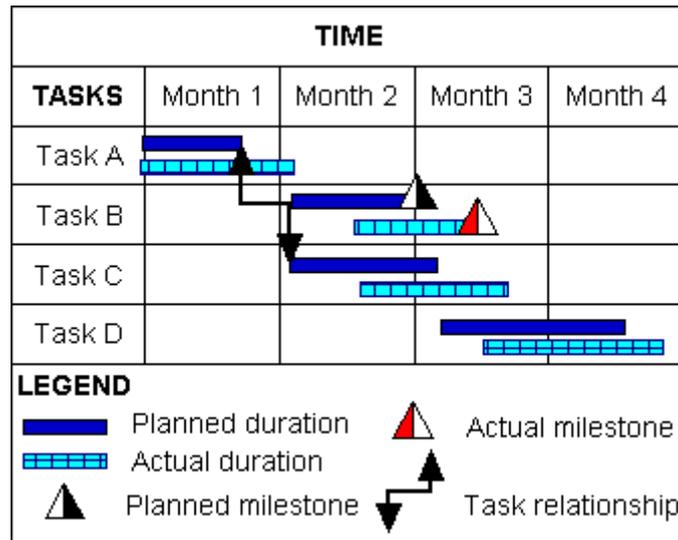
GANTT Charts

This is a managing tool. It shows how long the tasks should take, when they should start and finish etc.

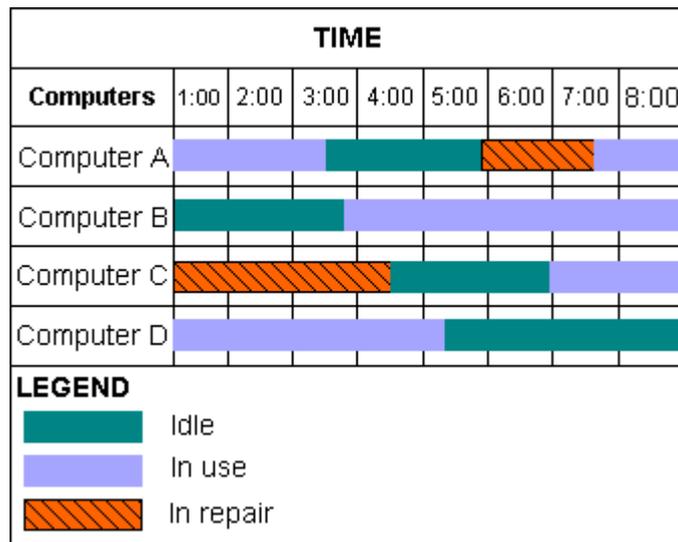
Gantt charts are bar graphs that help plan and monitor project development or resource allocation on a horizontal time scale.



Typically, Gantt charts indicate the exact duration of specific tasks, but they can also be used to indicate the relationship between tasks, planned and actual completion dates, cost of each task, the person or persons responsible for each task, and the milestones in a project's development.

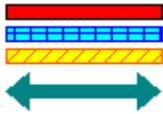


Supervisors and team leaders to schedule team members for various time dependent tasks such as visiting client companies for a sales organization or guard duty for the military also use Gantt charts. They can also show the activity load of departments or machines.



Basic Gantt Chart Shapes

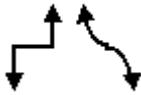
The basic shapes required to make a Gantt chart include tables, Gantt bars, milestone markers, and link lines.



Gantt bars indicate the duration of tasks.



Milestone markers signal a major turning point in the project such as an approval meeting or the release of a product. They can also mark the beginning and end of tasks.



Links lines show the relationship between two tasks, often indicating that a task can only begin when another ends.

Arrow on Node Diagram

It's the same as a PERT Diagram, but:

- The Diagrams are more compact with smaller, simpler nodes.
- The timing of key events representing the completion of several parallel activities is displayed more clearly. In an activity-on-node diagram a dummy node could be needed to represent a milestone.
- Manual calculations may be slightly quicker because there is no redundant information on the diagram.

Dependency Network

Before a task can be started, the previous task or tasks must be completed before the next one is carried out. Thus it creates the Critical path and a list of tasks in order.

Each task should have a TIME estimate. Resources from other non-critical tasks can be moved into critical tasks to help it if it has fallen behind.

A Float is a non-dependant task. It is calculated by taking the total time for completion, subtracting the amount of time it should take to complete the non-critical task.

Dependency network + Critical path = PERT Chart



GANTT Chart



Network Model

Critical Path Analysis

On any project some tasks may be completed simultaneously while other tasks may depend on earlier tasks being completed. Defining dependencies is the identification of the order in which the tasks must be completed. The way to do this is to work backwards from the end of the project and ask what must be completed before this can be started. Gradually the dependent tasks will be identified, arriving back at the start of the project.

Tasks may be either:

Finish to start: in which a previous task must be completed before a later one is started

Start to finish: in which a task must be started before a later one can be started

Finish to finish: in which both tasks must end simultaneously

Start to start: in which both tasks must start simultaneously

A Dependency Network (also called PERT Charts, standing for Program Evaluation and Review Technique) will represent the tasks diagrammatically to identify the tasks which depend on others, identify tasks representing particular risks, identifying times when there is too much happening and to determine the shortest time in which a project can be completed.

A Dependency Network will be a series of boxes, each representing a task with the line between boxes showing the relationship between tasks. A common way of drawing a Network is to include the estimated amount of time for the task and the start date and end date for each task. It is also a good idea to indicate the number of days by which a task can be delayed (called "float") on the lines between tasks. Float is the amount of time which a task can be delayed without affecting either any other task or the end date of the project, this gives the project manager flexibility in planning when tasks should be completed.

The Critical Path is found by tracing a line through those tasks which have no float at all: in other words this is the shortest possible time during which the project can be completed since if there is any delay to any of the tasks, the final completion date will also be delayed.

Risks

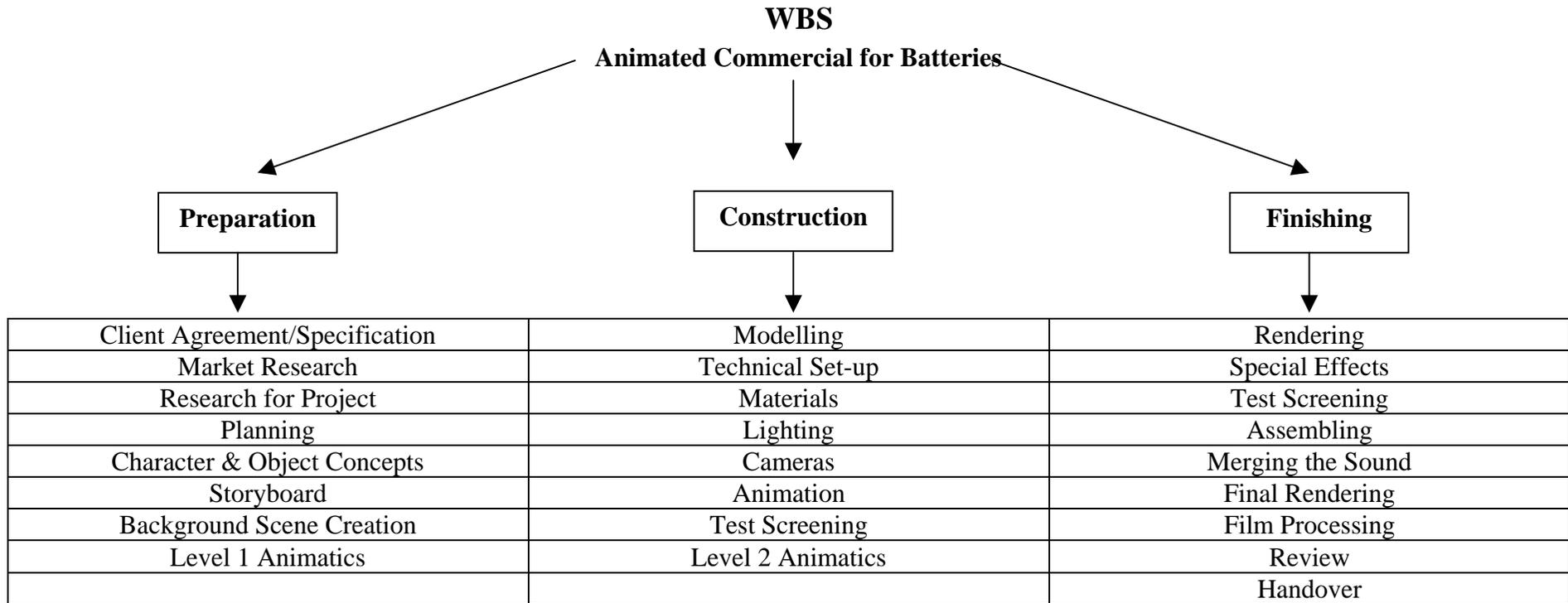
There are many risks to a company and its data from hackers or malicious users. To prevent any misuse to data or equipment a company must put in place some security measures like:

- Access rights
- Biometric security measures to gain access to rooms or buildings
- Anti virus software
- Firewalls
- User ID's and passwords
- Alarms
- Screening/vetting of all employees

There are also risks of losing data due to corrupt files, over writing or natural disasters due to fires or floods or even computer malfunction. Therefore employees should make back-ups onto secondary devices like CD's or USB Memory sticks and keep them off site.

The company should back its data files every day and store them off site or in a fireproof safe. Surge protectors, uninterruptible power supplies and a generator should be used just in case there is something wrong with the electricity supplier.

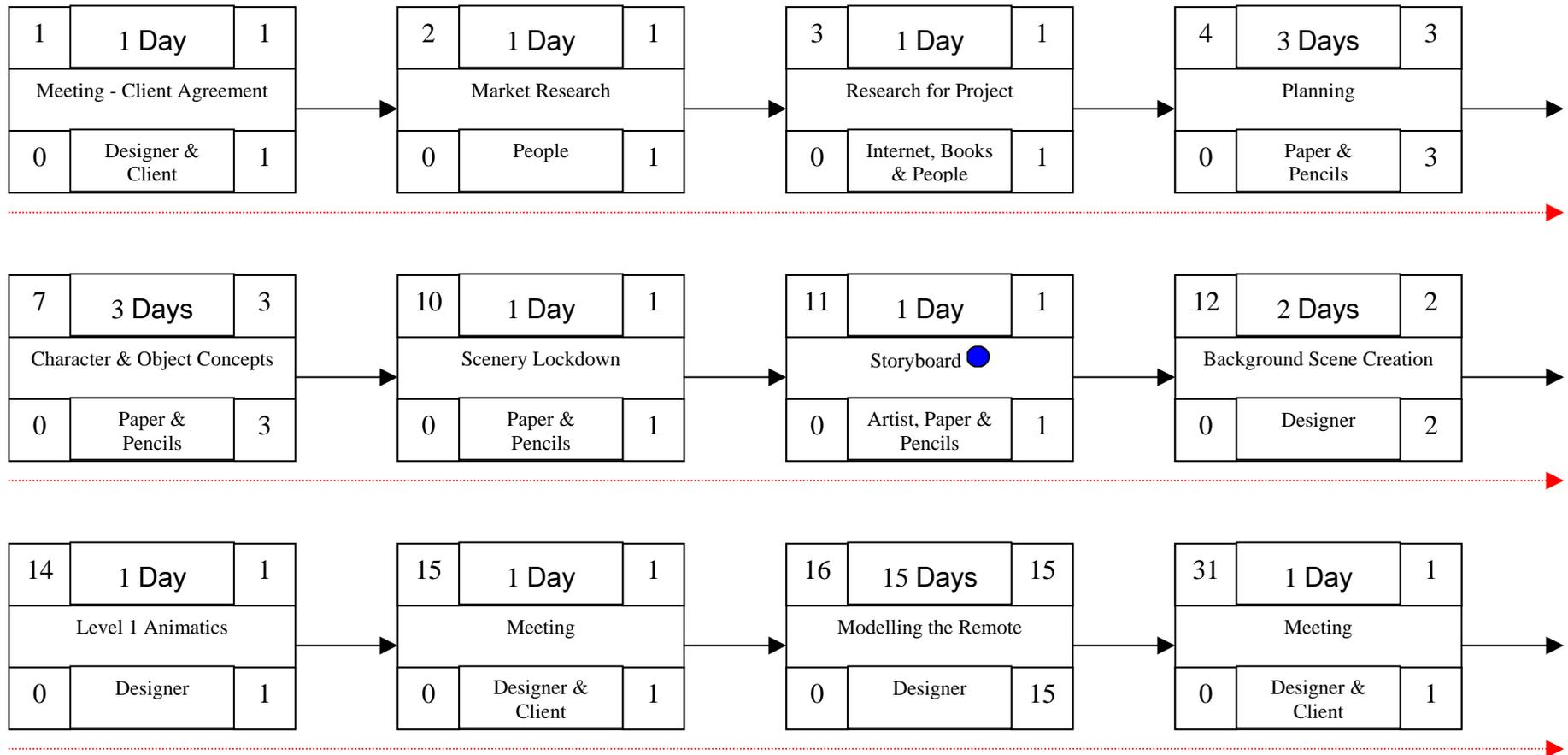
All these risks are high and should not be put aside.

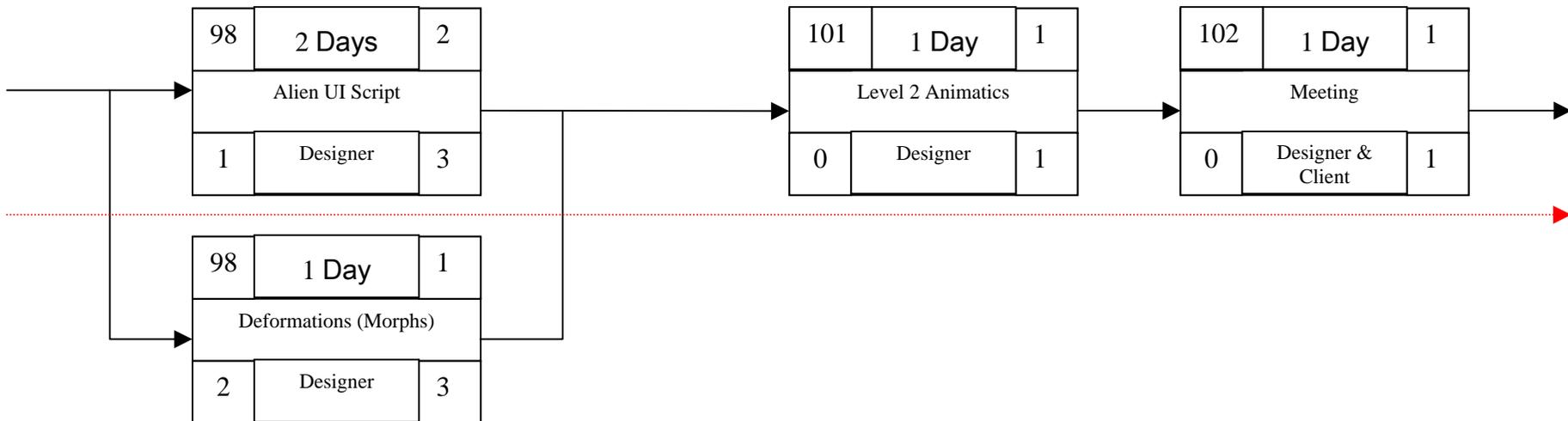
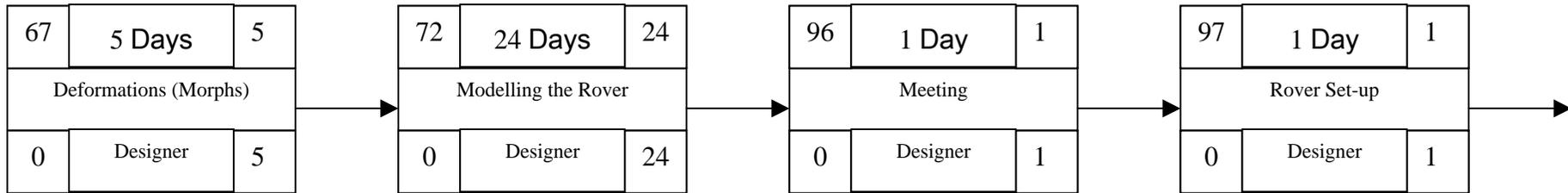
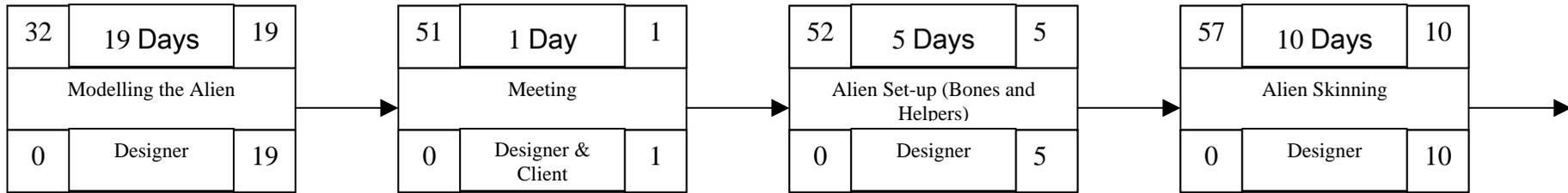


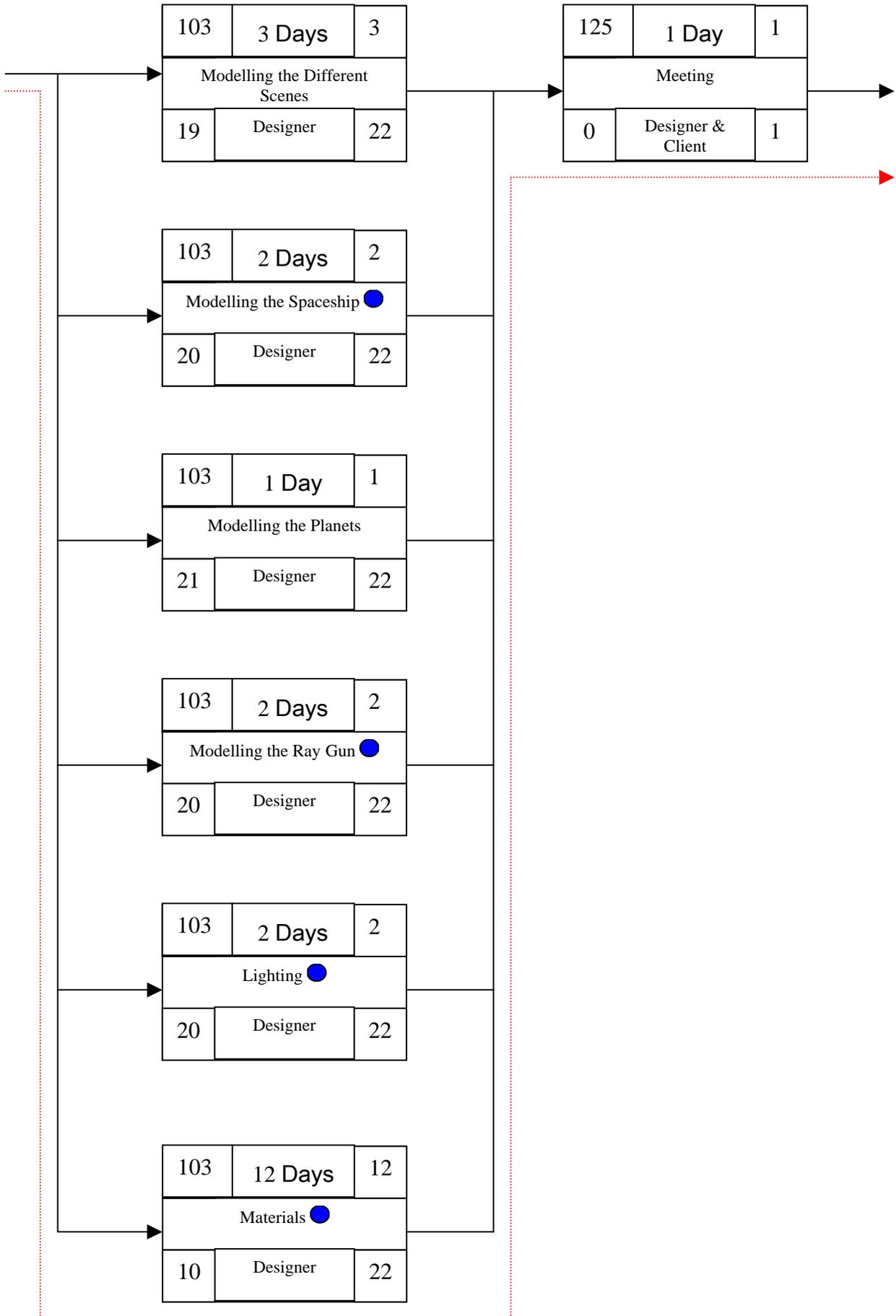
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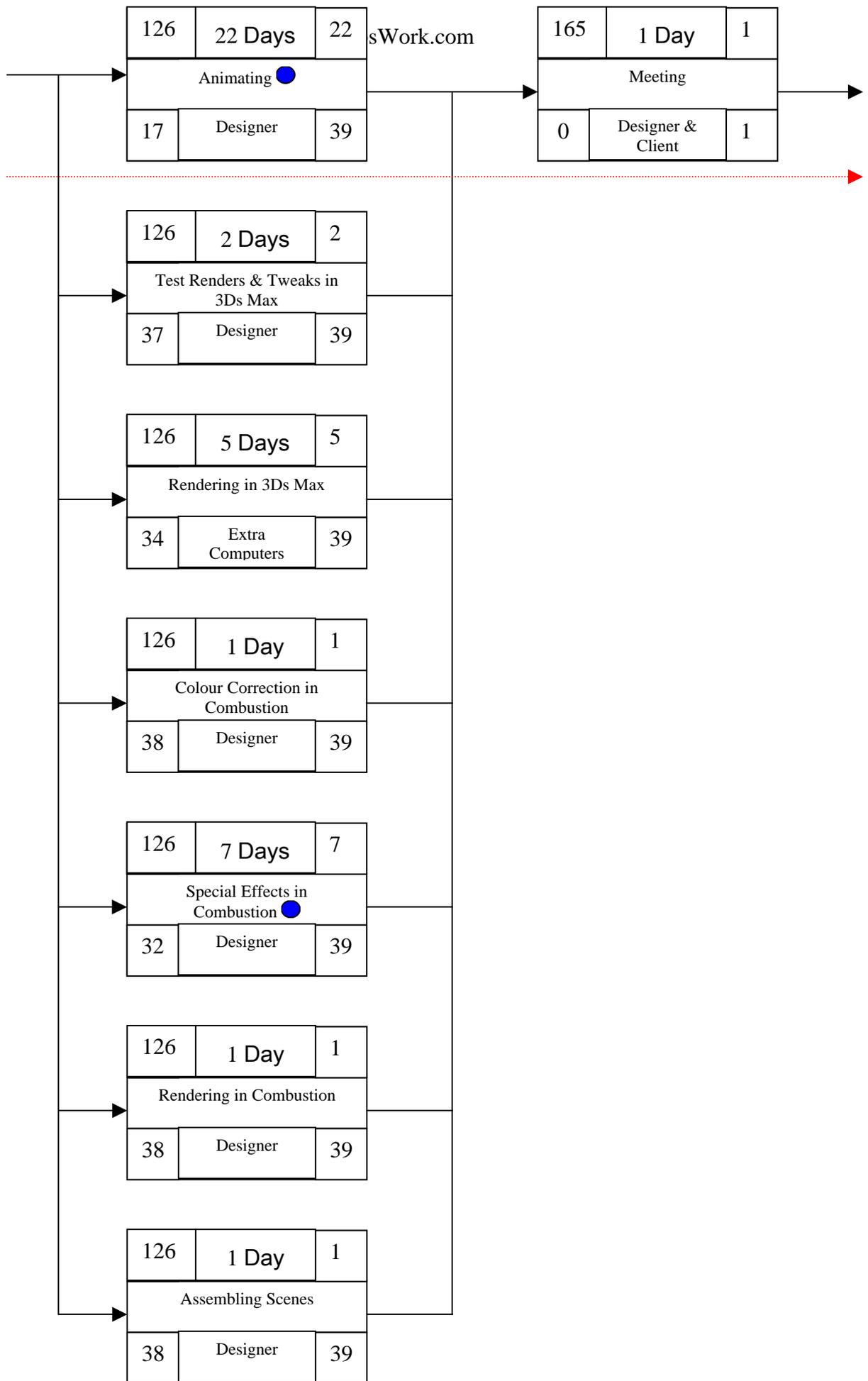
GANTT Chart

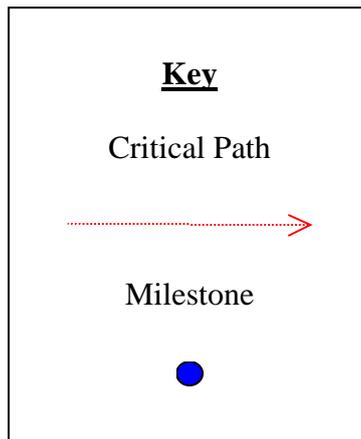
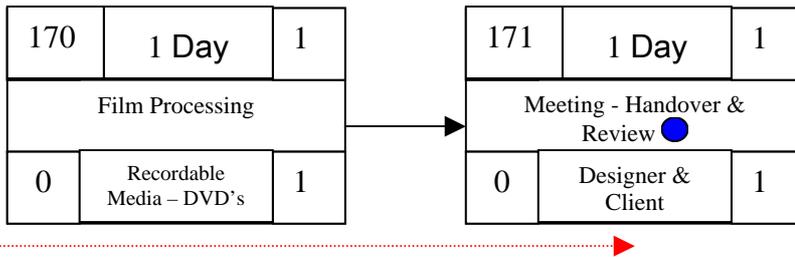
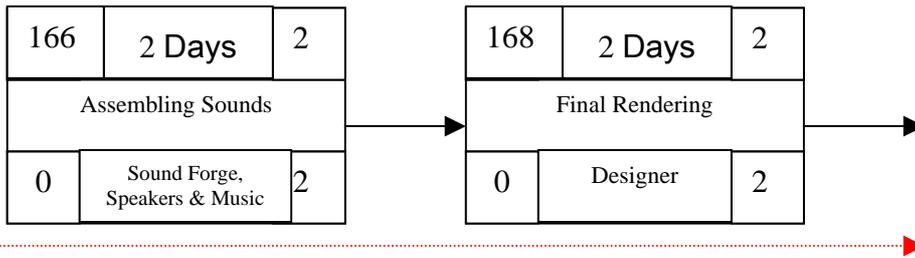
Network Model











Clarification on the PERT Chart

The resources are the same as for each other box as described below, unless otherwise stated.

The resources are as follows:

- Computers
- Printers
- Other peripheral devices
- Software – 3D studio Max, CAD, Photoshop, Illustrator, Combustion & Media Studio Pro
- Stationary
- Designer – Robert Kwiatek

Alien UI Script & Deformations (Morphs) are not critical because as long as it's all done within 3 days, switching can be made between them both.

As the statement above is a non-dependant task, it gives a day's float time for the Alien UI Script and 2 days float time for the Deformations (Morphs). But it must be started after the Rover Set-up and be completed before the Level 2 Animatics.

Modelling the Different Scenes, Modelling the Spaceship, Modelling the Planets, Modelling the Planets, Modelling the Ray Gun, Lighting & Materials are not critical because as long as it's all done within 22 days, switching can be made between them all. This gives a lot of leeway in the creative side as one might get tired with constantly doing the same modelling task over a long duration. Also one might have to go back to the finished model as new improvement ideas and concepts would have been thought of while modelling another object.

As the statement above is non-dependant task, it gives 19 days float time for Modelling the Different Scenes, 20 days float time for Modelling the Spaceship, 21 days float time for Modelling the Planets, 20 days float time for Modelling the Ray Gun, 20 days float time for Lighting & 10 days float time for Materials.

Animating, Test Renders & Tweaks in 3Ds Max, Rendering in 3Ds Max, Colour Correction in Combustion, Special Effects in Combustion, Rendering in Combustion & Assembling Scenes are not critical because as long as it's all done within 39 days, switching can be made between them all. This becomes very accommodating for the designer, as switching between the tasks is vital in order to create the finished end result. Without this, the end product would certainly look abysmal.

As the statement above is a non-dependant task, it gives 17 days float time for Animating, 37 days float time for Test Renders & Tweaks in 3Ds Max, 34 days float time for Rendering in 3Ds Max, 38 days float time for Colour Correction in Combustion, 32 days float time for Special Effects in Combustion, 38 days float time for Rendering in Combustion, 38 days float time for Assembling Scenes.

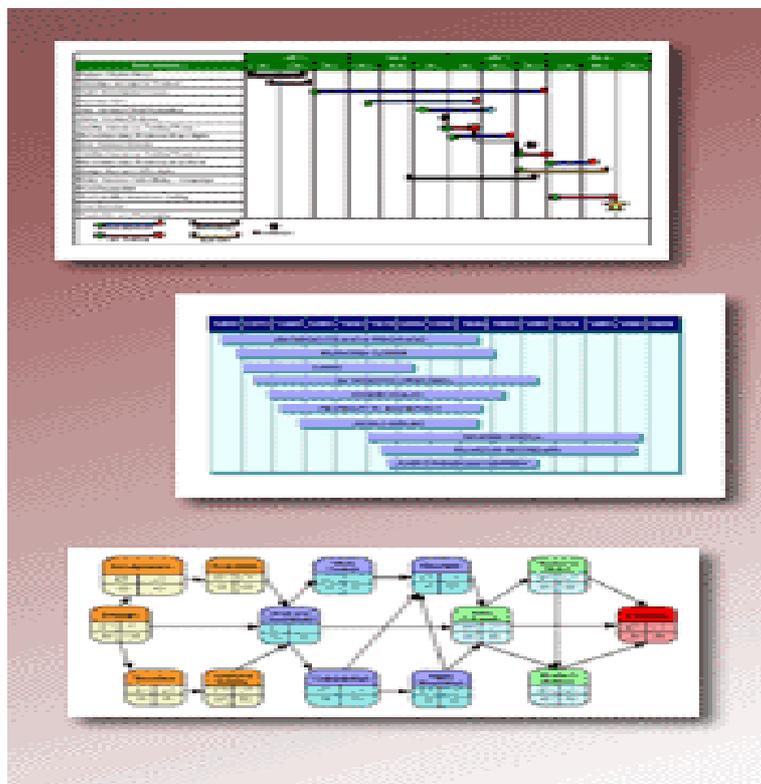
Review of Project Planning software

SmartDraw

SmartDraw is the ideal tool for Project Managers who need to quickly and easily document their planning and deployment projects.

With SmartDraw, you can create professional-looking Gantt charts, pert charts, workflow diagrams, and other project and time-management schedules in minutes!

With the SmartDraw Business & Charting Collection, you'll get symbols and templates for Gantt charts and other project management diagrams.



Conclusion

The project will last 171 days and there will be hardly any leeway if the project should fall behind schedule in any of the 43 tasks. However, there is some float time between tasks.

Personal Conclusion

When the first part of this assignment was issued to me last year at the beginning of the course, I didn't really understand then what the charts were meant for and how they were meant to be used properly. Therefore, I didn't do any of the charts or models correctly, which resulted in the Network Model to be incorrect. As a result of this, I didn't scribble notes onto the old Network Model to further the improvement of it; I just started from scratch and created a new Network Model as it was meant to be.

When I say I didn't do the last assignment correctly, I mean that I inputted incorrect information and used an incorrect time scale. I had previously done the time scale to December, but I was unaware it was meant to be until the end of the academic year in May, when the final project was due in. Also, during the year I had made changes and had done extra things to my animation that I was unaware of at the start of the course. So I have created a new WBS Model, a new GANNT Chart and a new PERT Chart showing all the changes made to it during the course of the year, the new processes I had to do and the rectified time scale.

I have learnt how to use these charts to help me to plan my work out; I have learnt how to use these charts to balance and complete the tasks on time for a specified date; and I have learnt and understood it now properly so that I can easily incorporate this into another project, even to a project in a proper company. So, for a future project like next years project, I will be able to plan it out to such precision that I will be able to accomplish the project much more easily to a better level of degree as I will be able to give myself better accomplishment dates to the tasks in hand so that I can spend more time on the animation and special effects tasks at the end of the year.

Also I would improve my Network Model by adding extra stages to it to include the project report, as this is still a major part of the project. It cannot be left out and forgotten like it was done this time round. By adding the report to the Network model, it would help me to balance my report with the other work so that neither would drag behind its time plan and that the report would be just as good as the animation.