Visualizing Progress

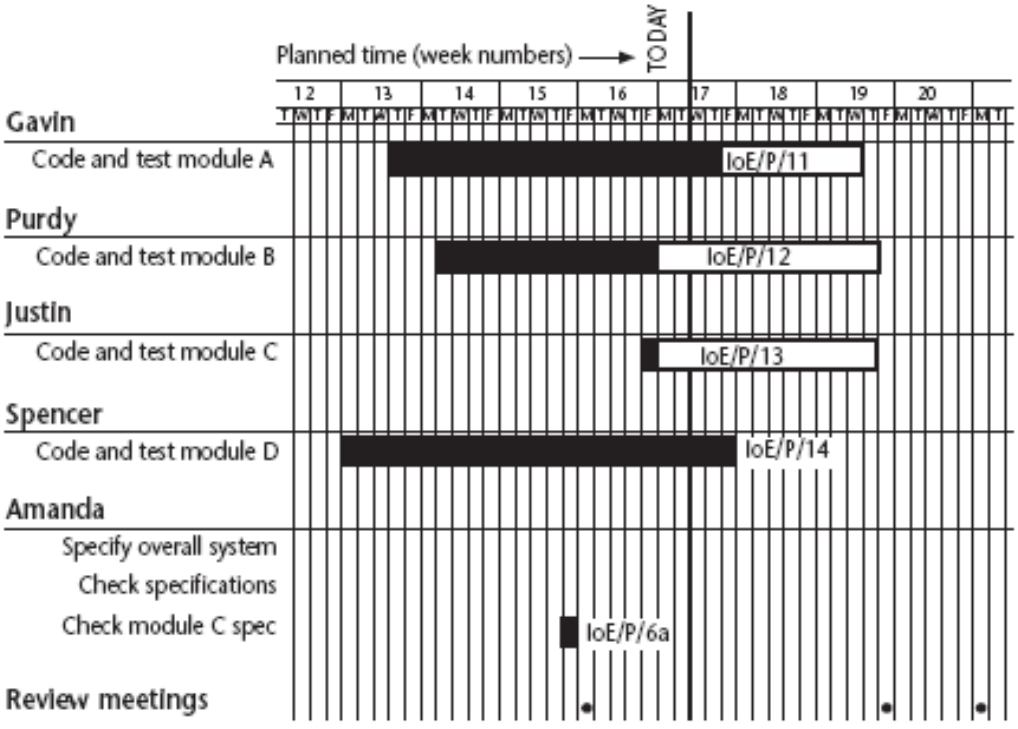
Economic Assessment:

- ✓ After collecting data the project manager will represent the collected data using static picture. We look at some methods of presenting a picture of the project and its future.
- ✓ Some of these methods are:

1. Gantt charts
2. Slip charts
3. Ball charts
4. timeline

Gantt charts:

- Simplest ,oldest techniques for tracking the project progress
- Indicates scheduled activity dates and durations
- Reported progress is recorded on the chart (by shading activity bars)
- Note that the Gantt chart is named after Henry Gantt (1861-1919) and so should not be written in capitals! You could ask students what they think GANTT stands for before you tell them this to impress this on them. I really find Gantt written as GANTT very, very annoying and threaten students with instantfailure of the module if they do this!

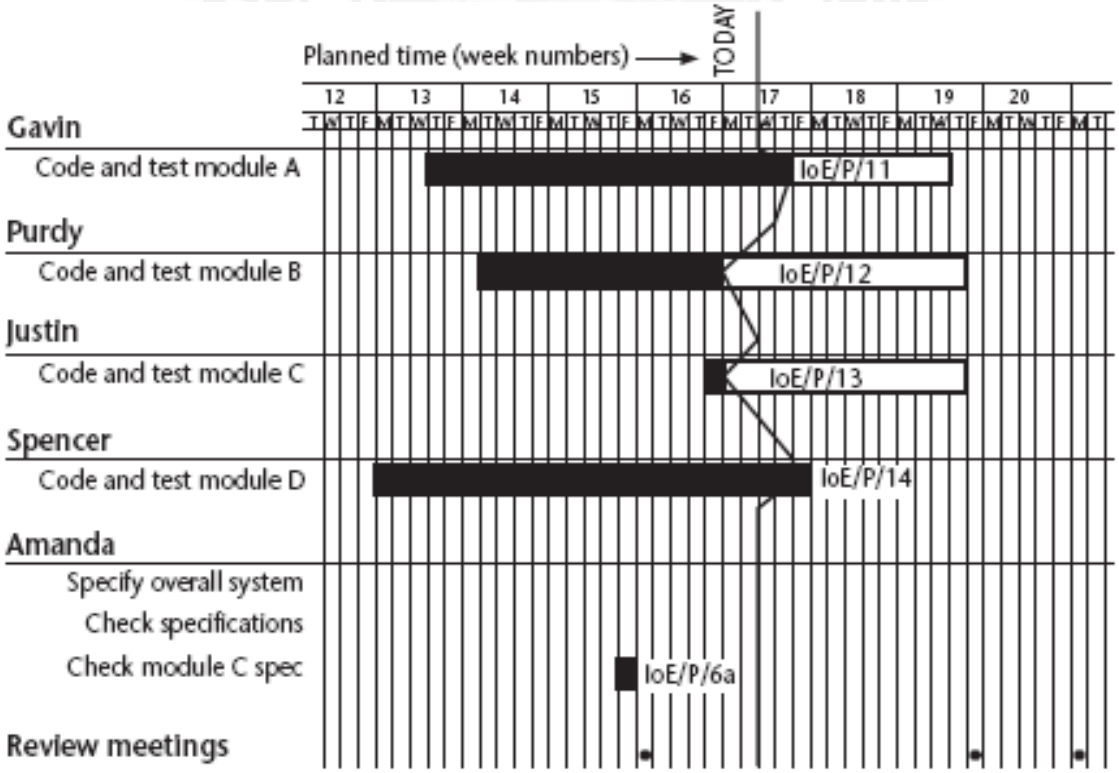


- The format of the Gantt chart here differs from the format used in Microsoft project as the activities for each team member are grouped together. You could input the details so that

they came out in this format, but it would not occurautomatically.

Slip charts:

- Provide more striking visual indication of those activities that are not progressing to schedule
- The more the slip line bends ,greater variation from the plan.
- A slip chart is a version of the Gantt chart where a line is drawn from top to bottom. To the left of the line are all the completed activities and to the rightthose activities (or parts of activities) that have not been completed.
- The more jagged the line, the more it means that that there are some activities that are lagging to various degrees and some that are ahead of themselves. A very jagged line means that there is scope for re-planning to move resources from those activities that are ahead to those that are behind.

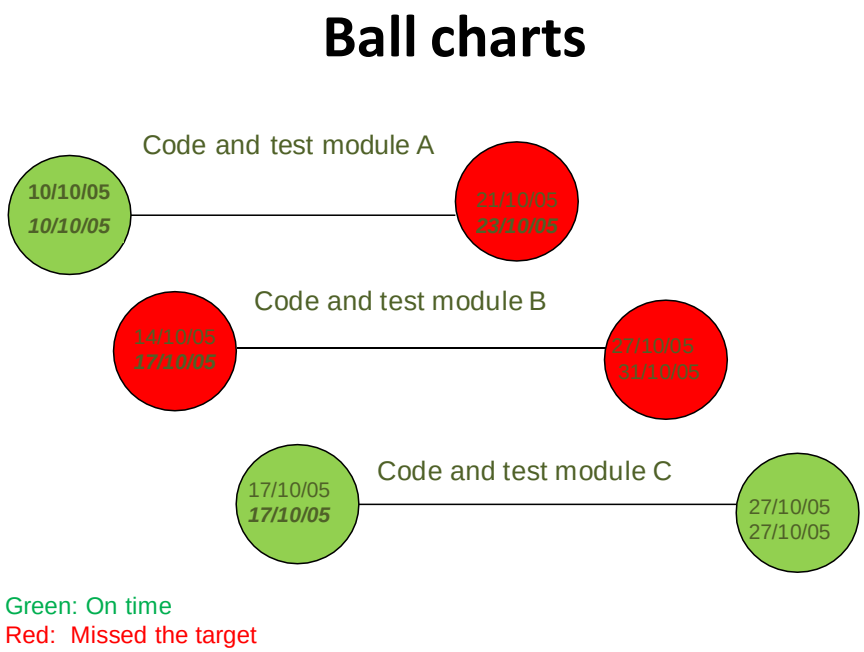


Ball charts:

- To show whether targets have been met or not
- Circles indicate start date & competition date
- Whenever revisions are made the revised date is put in to the circle
- Circles, which represent the start or finish of activities, start with the initial target dates. If these are modified then the second dates are changed. When the event actually takes place, the colour of the circle is changed to green if it is on target and to red if it has missed the

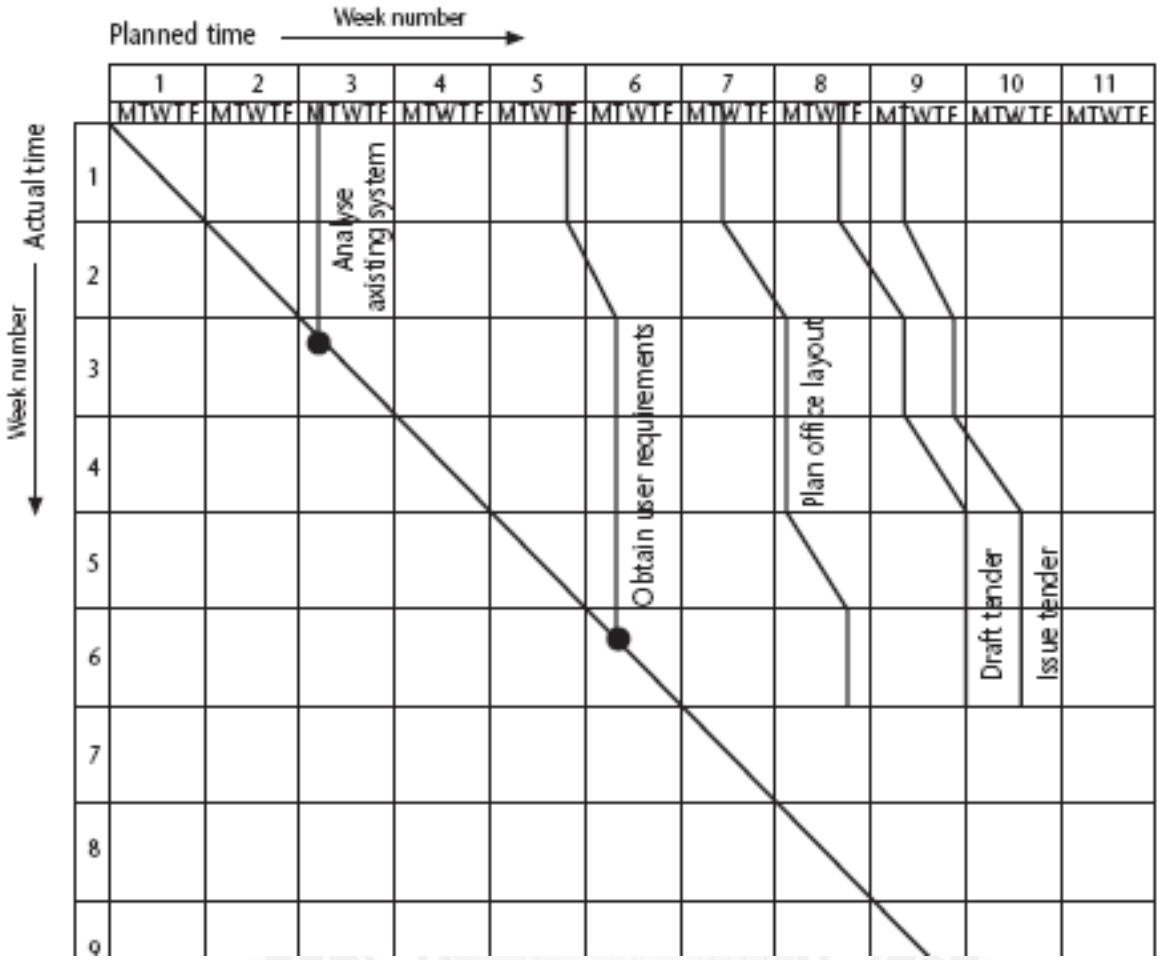
target.

- The idea is that this chart is put on a wall in a prominent position as a constantreminder to the project team of the current situation – hence it is often referredto as ‘balls on the wall’.



The timeline:

- This records the way that targets have changed throughout the project.
- Planned time is plotted on the horizontal axis, and actual time on the verticalaxis. The bendy lines going from top to bottom represent the scheduled completion date for each activity e.g.
- ‘analyse existing system’ – at start this was due finish on the Monday of week 3and it did finish then
- ‘obtain user requirements’ was originally planned to finish on the Thursday ofweek 5, but at the end of the first week it was rescheduled to finish on the Tuesday of week 6.


Planned time
Week number
1 2 3 4 5 6 7 8 9 10 11
M T W T F
Actual time
Week number
1 2 3 4 5 6 7 8 9
Analyse existing system
Obtain user requirements
Plan office layout
Draft tender
Issue tender

Cost Monitoring

- A project could be late because the staff originally committed, have not beendeployed
- In this case the project will be ***behind time*** but ***under budget***
- A project could be ***on time*** but only because additional resources have beenadded and so by ***over budget***
- Need to monitor both ***achievements*** and ***costs***

Cost Management

- Cost Management includes:
  - Cost Estimation
  - Cost Budgeting
  - Cost Control
- Estimation & Budgeting – Main Tools & Techniques
  - Estimation Techniques
  - Reserve Analysis (Risk, Unknown, Cost of Quality)
  - Cost Baseline
  - Funding Requirements & Cash Flow
- Cost Control.
  - Performance Measurement Analysis: Planned value, Actual Cost, Cost Variance, Cost Performance Index, Estimate to Complete
  - Approved Change Requests

Estimating Schedule Activity

- Estimation Cost of the Resources Needed to complete the activity
- Includes variations to the cost estimate (Risk, Etc)
- Take into consideration Alternative Costing for the overall project timeperiod
  - Cost of extended design effort VS. additional maintenance costs
- Cost estimates include ALL resources that will be charged to the projectincluding Inflation Forecast, Salary Increase, Contingency cost.

  ROM (Rough Order of Magnitude, E.G: –50/+100%) is allowed in the first stages. Refinement is required at later stages (E.G: -10/+15%).

Activity Estimating – Inputs & Tools

- Inputs
  - External Factors: Marketplace Condition, External Cost InformationDatabases
  - Organization Assets: Historical Information, Estimating Policies andTemplates, Team Knowledge
  - Project Factors: Scope, WBS, Management Plan, Schedule Plan, Staffing Plan, Risk
- Tools
  - Analogous Estimates
  - Resource Cost Rates
  - Parametric Estimates (Function Points Etc)
  - Vendor Bid Analysis
  - Project Management Software
- Reserve Analysis (Contingency Allowance)
  - Will Be Used at the Discretion of the Project Manager
  - Budgeting Project Unknowns
- Risks
  - Will Be budgeted according to their severity level and probabilities
  - The budget will cover mitigation activities and workarounds and will be implemented upon the project manager decision.
- Cost of Quality (COQ)
  - Costs added to the project in order to ensure conformance with qualitystandards
  - Cost of Non Quality – Failure Cost/Rework. Costs that will added as a result of bugs and non-quality project activities

Activity Estimating - Output

- Activity Cost Estimating – Most likely estimates of all the activity resources
- Estimate Details
  - Basis for the estimate (how it was developed)
  - Assumptions made
  - Constraints
  - Possible range of the estimate (100000$ -10%/+15%)

- Requested Changes (If the estimate analysis recommends a change)
- CA – Control Account (the corporate accounting number that will incur the cost of the activity)
- Cost Management Plan (Update)

Cost Baseline

- Aggregating the estimated costs of the individual scheduled activities to establish a total COST BASELINE for measuring and budgeting the project
- Inputs: WBS, Activity Cost Estimate, Project Schedule, Resource Calendar, Contracts, Cost Management Plan
- Tools & Techniques: Cost Aggregation, Reserve Analysis, Parametric Estimating (adjustment to the aggregate cost), Funding Limit Reconciliation(can impact the schedule and overall cost)
- Output: Cost Baseline, Expected Cash Flow, Funding Requirements (including Management Reserve), Requested Changes, Updated Cost Management Plan

Cost control

- Assuring the Potential Cost Overrun do not exceed the authorized funding PERIODICALLY and in TOTAL
- Monitoring cost PERFORMANCE to detect and understand Variances from the Baseline
- Detect Changes as they occur
- Prevent unapproved changes
- Ensuring Requested Changes are Agreed Upon
- Report Changes to Stakeholders
- Acting to bring expected overruns within acceptable limits
- Influencing factors that creates changes to the cost baseline

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