Software Project Management
Lecture-3

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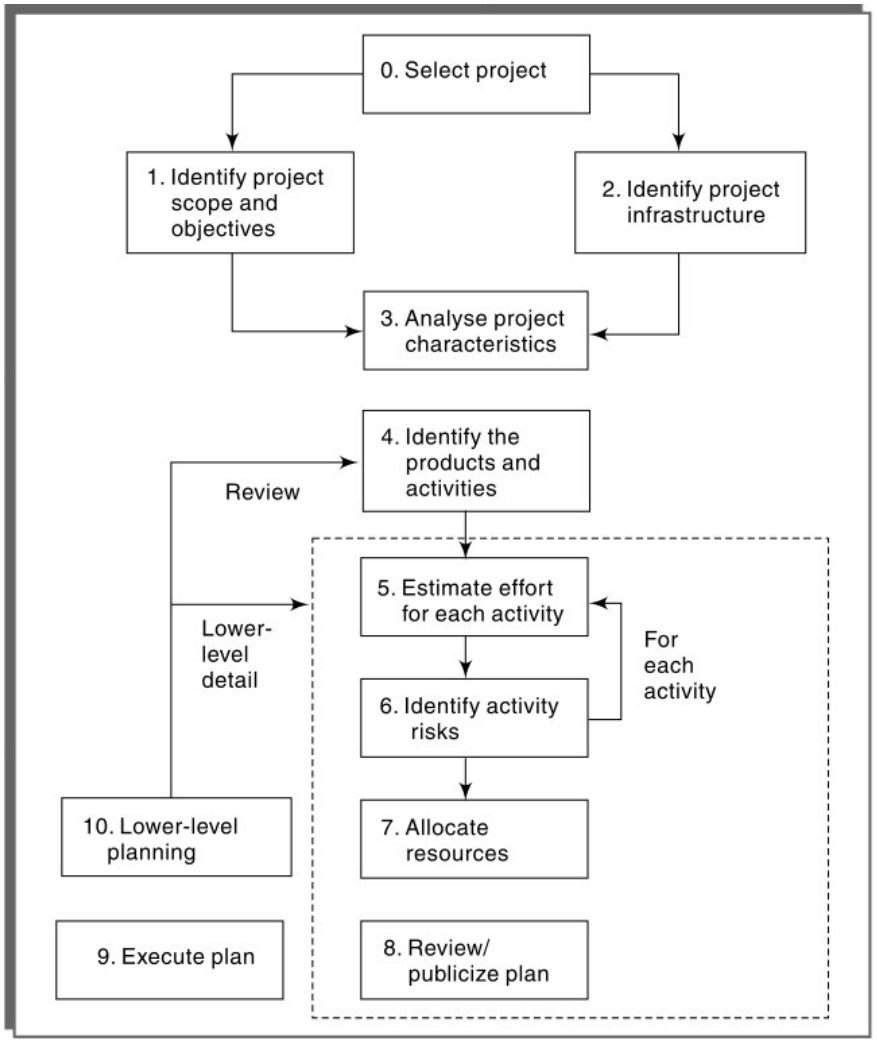
Step-Wise Project Planing Framework

Step-Wise Project Planing Framework



An overview of Step Wise

Step-Wise Project Planing Framework

Step-1: Identify project scope and objectives

1.1 Identify objectives and measures of effectiveness in meeting them

1.2 Establish a project authority

1.3 Identify stakeholders

1.4 Modify objectives in the light of stakeholder analysis

1.5 Establish methods of communication with all parties

Step-Wise Project Planing Framework

Step-2: Identify Project Infrastructure

2.1 Establish relationship between project and strategic planning

2.2 Identify installation standards and procedures

2.3 Identify project team organization

Step-Wise Project Planing Framework

2.2 Identify installation standards and procedures

- Change control and configuration management standards should be in place to ensure that changes to requirements are implemented in a safe and orderly way.
- The procedural standards may lay down the quality checks that need to be done at each point of the project life cycle or these may be documented in a separate quality standards and procedures manual.
- The organization, as part of its monitoring and control policy, may have a measurement programme in place which dictates that certain statistics have to be collected at various stages of a project.
- **For example,** the way that the hours spent by team members on individual tasks are recorded on timesheets.

Step-Wise Project Planing Framework

2.3 Identify project team organization

- Project leaders, especially in the case of large projects, might have some control over the way that their project team is to be organized. Often, though, the organizational structure will be dictated to them.
- For example: A high-level managerial decision might have been taken that software developers and business analysts will be in different groups, or that the development of business-to-consumer web applications will be done within a separate group from that responsible for ‘traditional’ database applications.

Step-Wise Project Planing Framework

Step-3: Analyse Project Characteristics

3.1 Distinguish the project as either objective- or product-driven

3.2 Analyse other project characteristics

3.3 Identify high-level project risks

3.4 Take into account user requirements concerning implementation

3.5 Select general life-cycle approach

3.6 Review overall resource estimates

Step-Wise Project Planing Framework

3.2 Analyse other project characteristics

- For example, is an information system to be developed or a process control system, or will there be elements of both? Will the system be safety critical, where human life could be threatened by a malfunction?

Step-Wise Project Planing Framework

3.3 Identify high-level project risks

- Consideration must be given to the risks that threaten the successful outcome of the project.
- Generally speaking, most risks can be attributed to the operational or development environment, the technical nature of the project or the type of product being created.

3.4 Take into account user requirements concerning implementation

- The clients may have their own procedural requirements. For example, an organization might mandate the use of a particular development method.

Step-Wise Project Planing Framework

3.5 Select general life-cycle approach

3.6 Review overall resource estimates

- Once the major risks have been identified and the broad project approach has been decided upon, this would be a good point at which to re-estimate the effort and other resources required to implement the project.
- Where enough information is available an estimate based on function points might be appropriate.

Step-Wise Project Planing Framework

Step-4: Identify project products and activities

4.1 Identify and describe project products (including quality criteria)

4.2 Document generic product flows

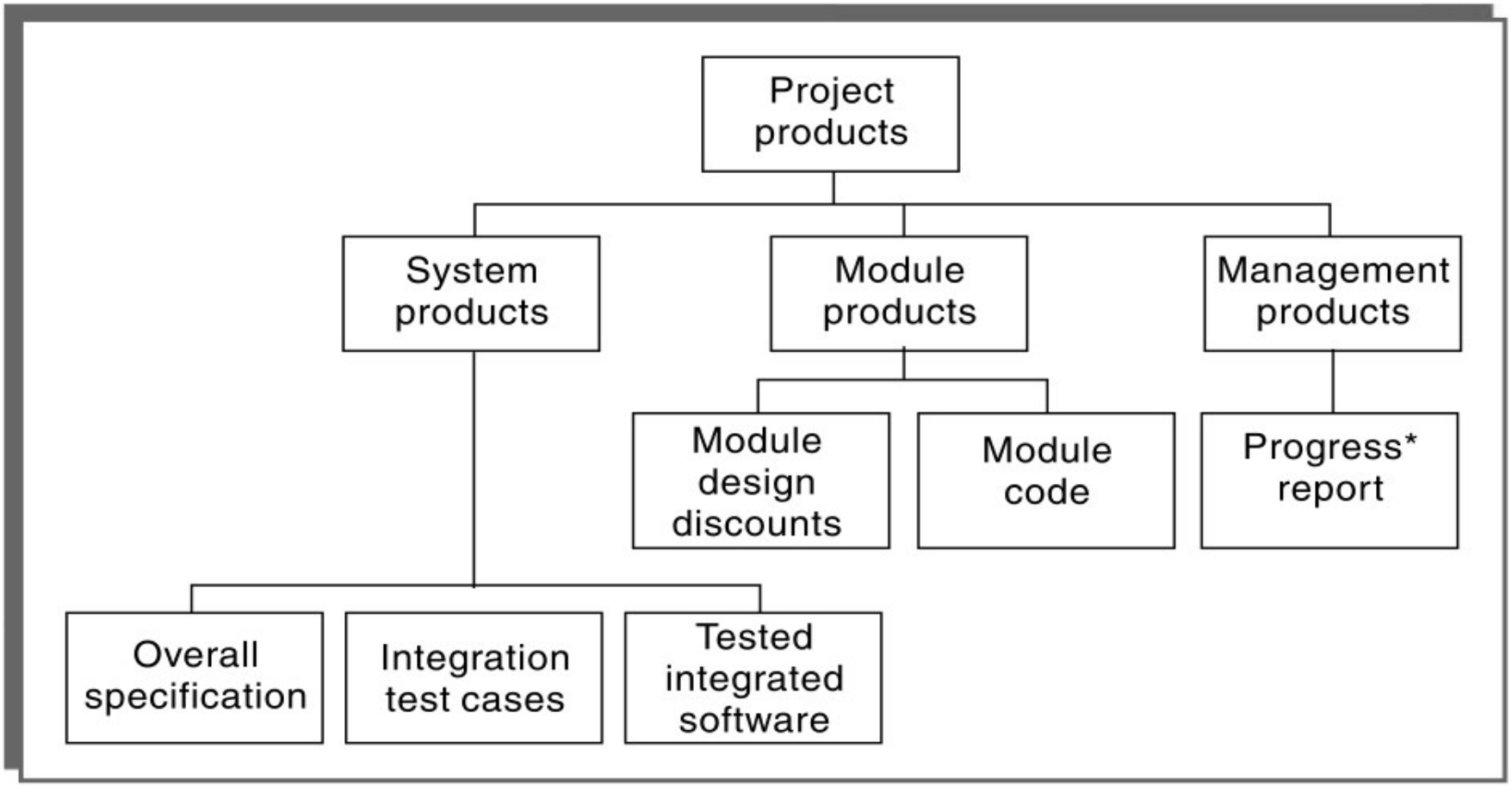
4.3 Recognize product instances

4.4 Produce ideal activity network

4.5 Modify ideal to take into account need for stages and checkpoints

Step-Wise Project Planing Framework

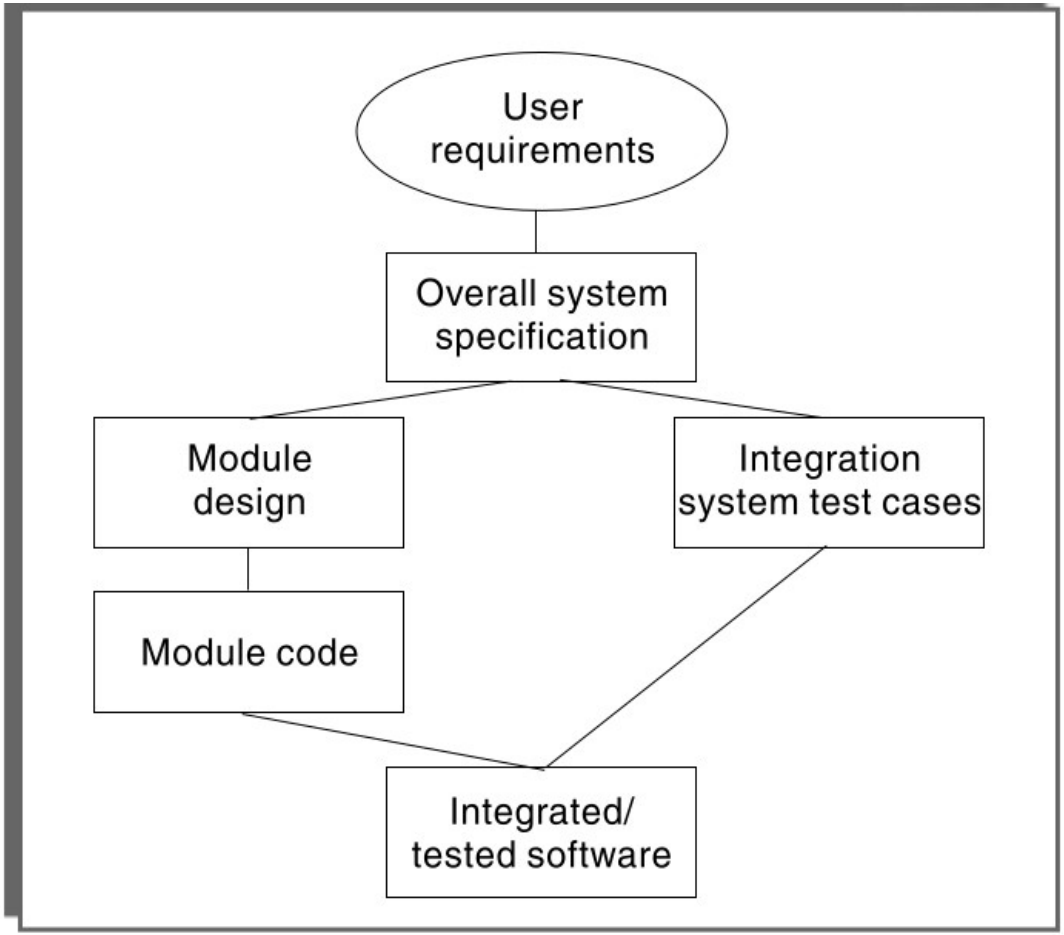
4.1 Identify and describe project products (deliverable)



Step-Wise Project Planing Framework

4.2 Document generic product flows

Product Flow Diagram



Step-Wise Project Planing Framework

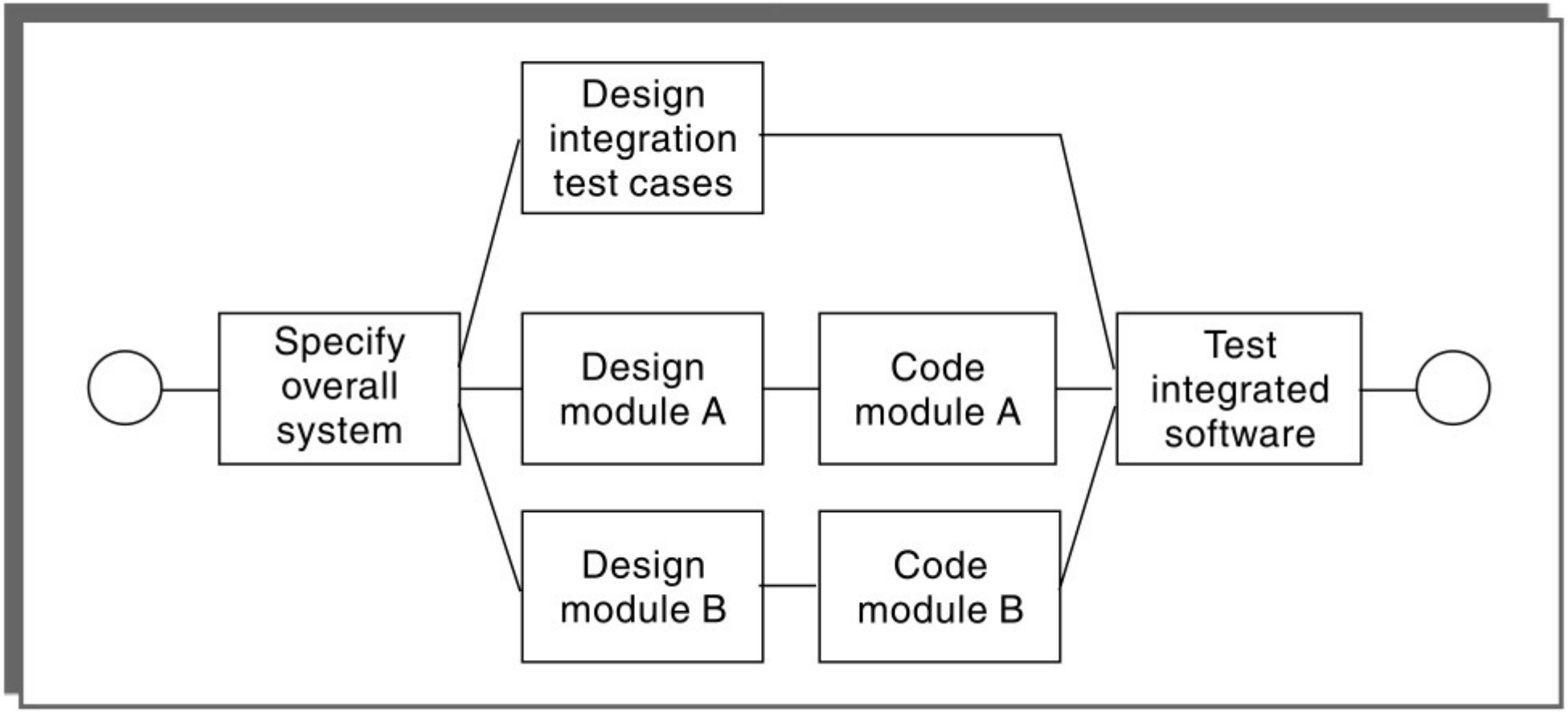
4.3 Recognize product instances

4.4 Produce ideal activity network

- In order to generate one product from another there must be one or more activities that carry out the transformation.
- By identifying these activities we can create an activity network which shows the tasks that have to be carried out and the order in which they have to be executed.

Step-Wise Project Planing Framework

Activity Network:



Step-Wise Project Planing Framework

Step-5: Estimate effort for each activity

5.1 Carry out bottom-up estimates

5.2 Revise plan to create controllable activities

Step-Wise Project Planing Framework

- *5.1 Carry out bottom-up estimates*

  - Some overall estimates of effort, cost and duration will already have been done (see Step 3.6).
  - At this point, estimates of the staff effort required, the probable elapsed time and the non-staff resources needed for each activity will need to be produced.
  - The difference between elapsed time and effort should be noted.

Step-Wise Project Planing Framework

- *5.1 Carry out bottom-up estimates*

  - Effort is the amount of work that needs to be done. If a task requires three members of staff to work for two full days each, the effort expended is six days.

  - Elapsed time is the time between the start and end of a task. In our example above, if the three members of staff start and finish at the same time then the elapsed time for the activity would be two days.

Step-Wise Project Planing Framework

5.2 Revise plan to create controllable activities

- The estimates for individual activities could reveal that some are going to take quite a long time. Long activities make a project difficult to control.

- If an activity involving system testing is to take 12 weeks, it would be difficult after six weeks to judge accurately whether 50 per cent of the work is completed. It would be better to break this down into a series of smaller sub-tasks.

Step-Wise Project Planing Framework

Step-6: Identify activity risks

6.1 Identify and quantify activity-based risks

6.2 Plan risk reduction and contingency measures where appropriate

6.3 Adjust plans and estimates to take account of risks

Step-Wise Project Planing Framework

Step-7: Allocate resources

7.1 Identify and allocate resources

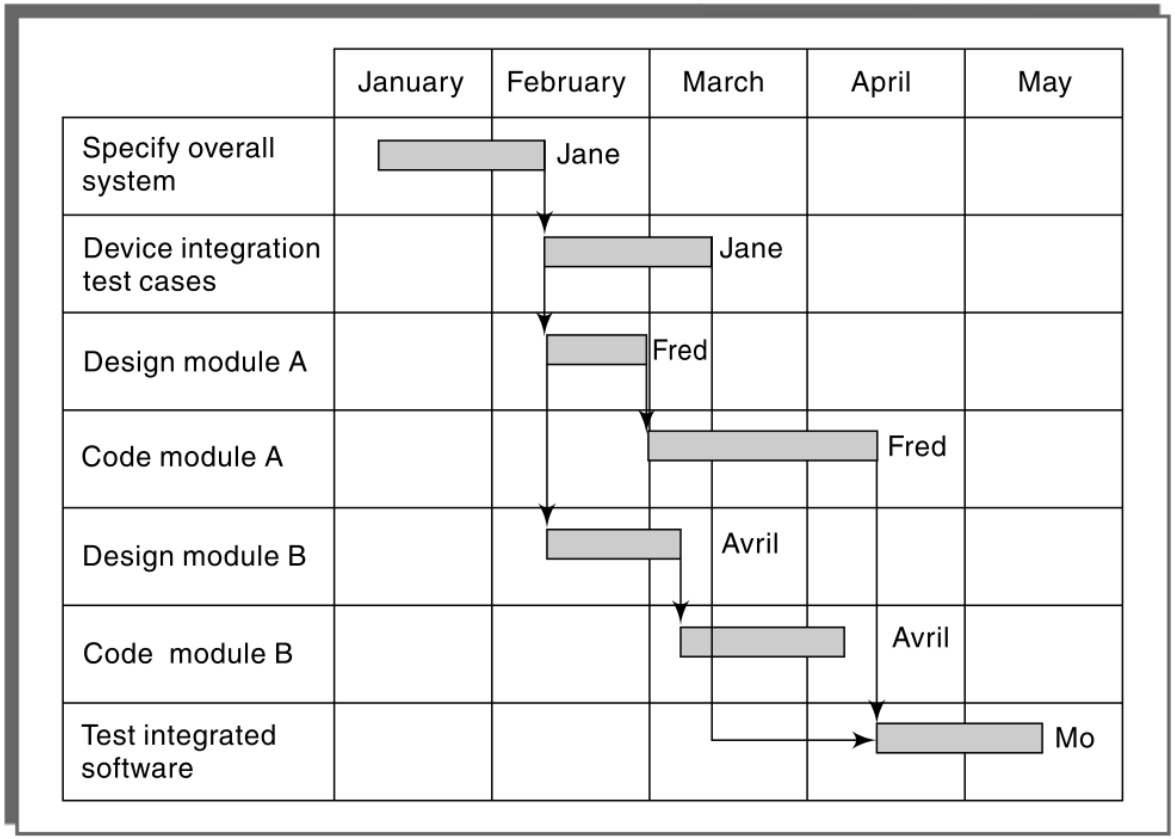
7.2 Revise plans and estimates to take account of resource constraints

Step-Wise Project Planing Framework

Step-8: Review/publicize plan

8.1 Review quality aspects of project plan

8.2 Document plans and obtain agreement



Step-Wise Project Planing Framework

Step-9 and 10: Execute plan/lower levels of planning

This may require the reiteration of the planning process at a lower level.