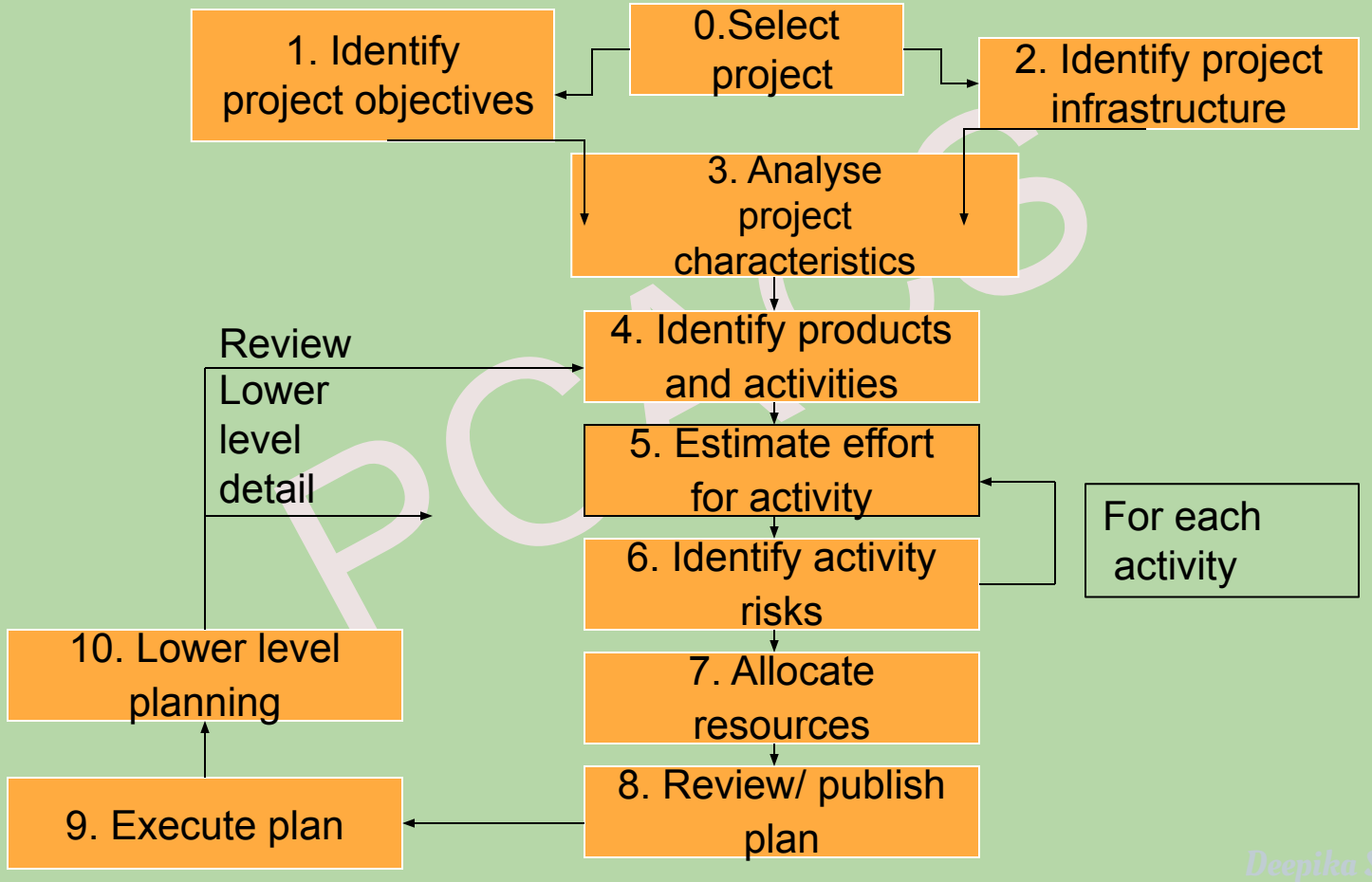
3 - An Overview of Project Planning

Introduction to Step Wise Project Planning

- Introductory Video https://www.youtube.com/watch?v=fIZ643FFePY
- There are many approaches for Managing Projects worldwide
- Two major approaches are **PMP & PRINCE2**
- **PMP -** Project Management Professional (PMBoK -PM Book of Knowledge)
- PRINCE2(**PR**ojects **IN C**ontrolled **E**nvironment) https://www.youtube.com/watch?v=61RnrsWQE7A
- PMP vs. PRINCE2 https://www.youtube.com/watch?v=5ZH62YjN_ns
- Step wise Planning https://www.youtube.com/watch?v=RiW6iGI386c

‘Step Wise’ - an overview



Step 1 Establish project scope and objectives

- 1.1 Identify objectives and measures of effectiveness
  - ‘how do we know if we have succeeded?’
- 1.2 Establish a project authority
  - ‘who is the boss?’
- 1.3 Identify all stakeholders in the project and their interests
  - ‘who will be affected/involved in the project?’
- 1.4 Modify objectives in the light of stakeholder analysis
  - ‘do we need to do things to win over stakeholders?’
- 1.5 Establish methods of communication with all parties
  - ‘how do we keep in contact?’

https://www.youtube.com/watch?v=1-SvuFIQjK8

Step 2 Establish project infrastructure

- 2.1 Establish link between project and any strategic plan
  - ‘why did they want the project?’
- 2.2 Identify installation standards and procedures
  - ‘what standards do we have to follow?’
- 2.3. Identify project team organization
  - ‘where do I fit in?’

Step 3 Analysis of project characteristics (to ensure that appropriate methods are used)

- 3.1 Distinguish the project as either objective or product-based.
  - Is there more than one way of achieving success?
- 3.2 Analyse other project characteristics (including quality based ones)
  - what is different about this project? (safety critical, fault tolerant etc.)
- 3.3 Identify high level project risks
  - 'what could go wrong?' * 'what can we do to stop it?'
- 3.4 Take into account user requirements concerning implementation
  - If there exists some specific mandate from user's side
- 3.5 Select general life cycle approach
  - waterfall? Increments? Prototypes?
- 3.6 Review overall resource estimates
  - 'does all this increase the cost?'

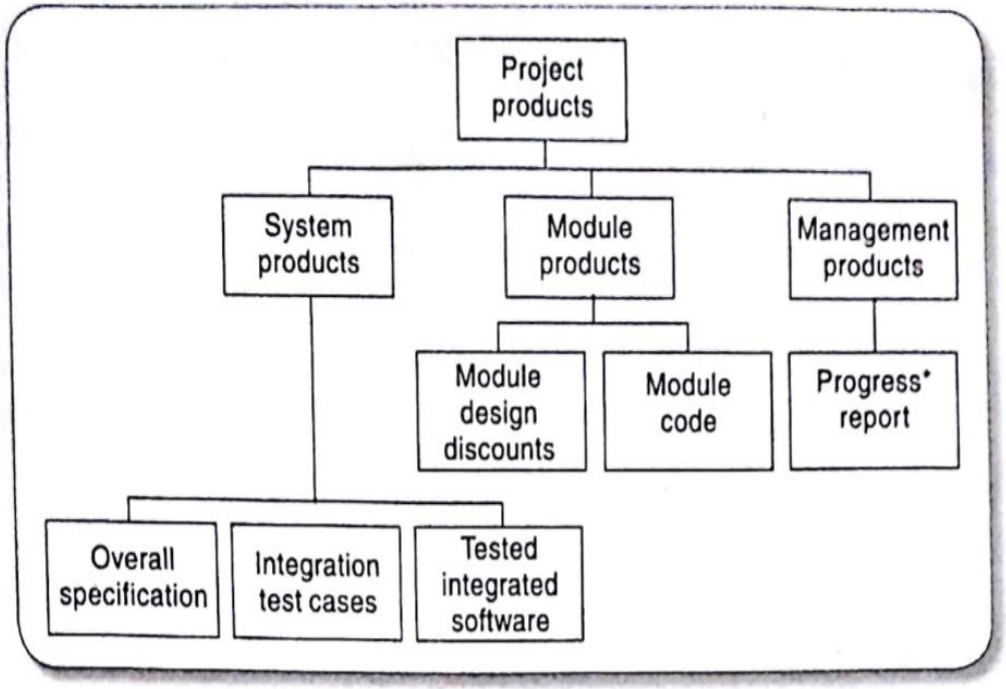
https://www.youtube.com/watch?v=N1muhy2PE6Y

Step 4 Identify project products and activities

- **4.1** Identify and describe project products - ‘what do we have to produce?’
- PRODUCT is the result of an activity https://www.youtube.com/watch?v=YRiS5moPBTw
- Product could be (among other things)
  - physical thing (‘installed pc’),
  - a document (‘logical data structure’)
  - a person (‘trained user’)
  - a new version of an old product (‘updated software’)
- The following are NOT normally products:
  - activities (e.g. ‘training’)
  - events (e.g. ‘interviews completed’)
  - resources and actors (e.g. ‘software developer’) - may be exceptions to this https://www.youtube.com/watch?v=Dw8K_8EYzZo
- Products CAN BE end *deliverable* or *intermediate*

Product description (PD)

- Product identity
- Description - what is it?
- Derivation - what is it based on?
- Composition - what does it contain?
- Format
- Relevant standards
- Quality criteria

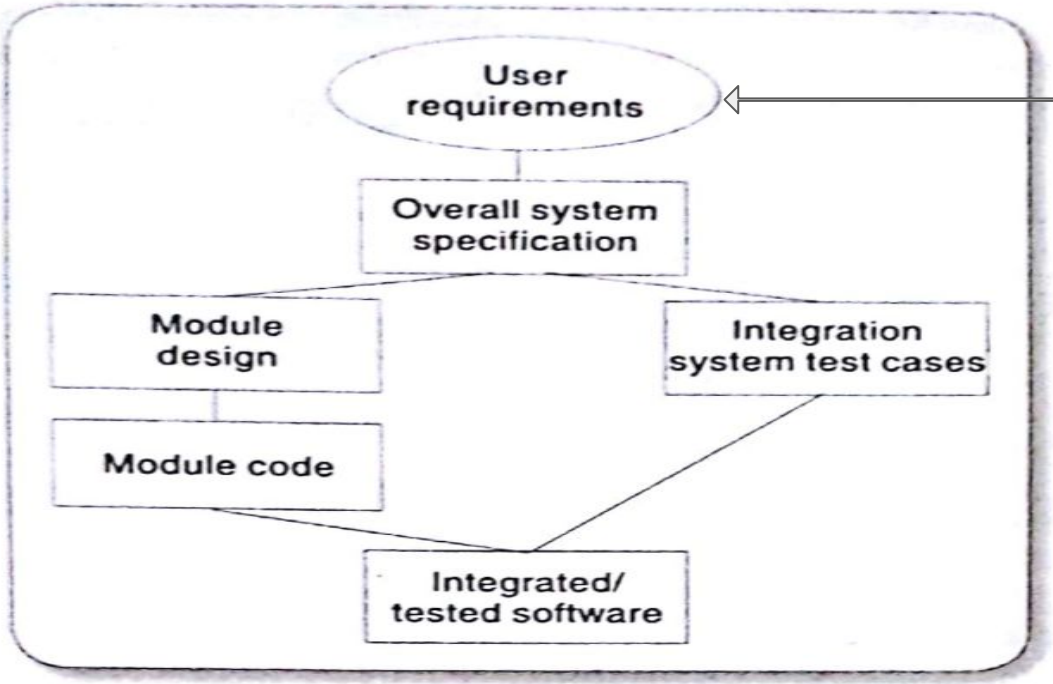


PBS - Product Breakdown structure

Step 4 continued

4.2 Document generic product flows (some products need other products to exist before they can be created)

- It is portrayed in **PFD** - Product Flow Diagram



Oval indicates that It is used by the project and is not created by a project

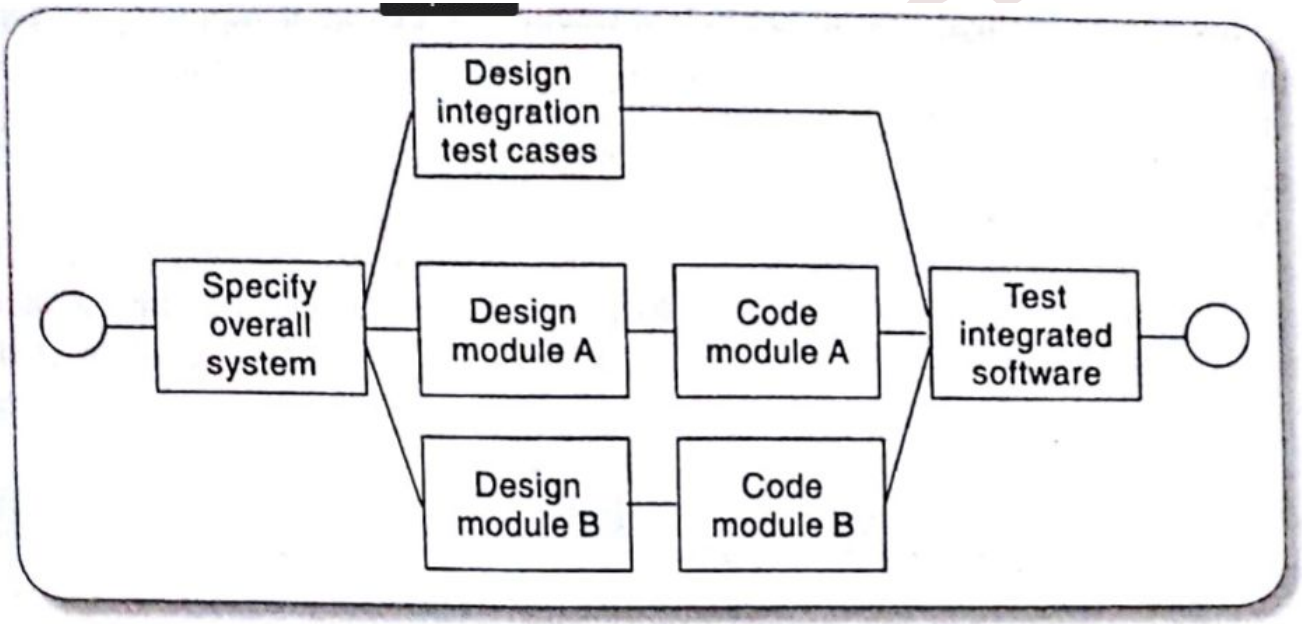
Step 4.3 Recognize product instances

- The PBS and PFD will probably have identified generic products e.g. ‘software modules’
- It might be possible to identify specific instances e.g. ‘module A’, ‘module B’..
- But in many cases this will have to be left to later, more detailed, planning

4.4. Produce ideal activity network

- Identify the activities needed to create each product in the PFD
- More than one activity might be needed to create a single product
- IDEAL Activity Network doesn’t consider any Resource Constraint
- Draw up activity network https://www.youtube.com/watch?v=dhY8ldKdCgw

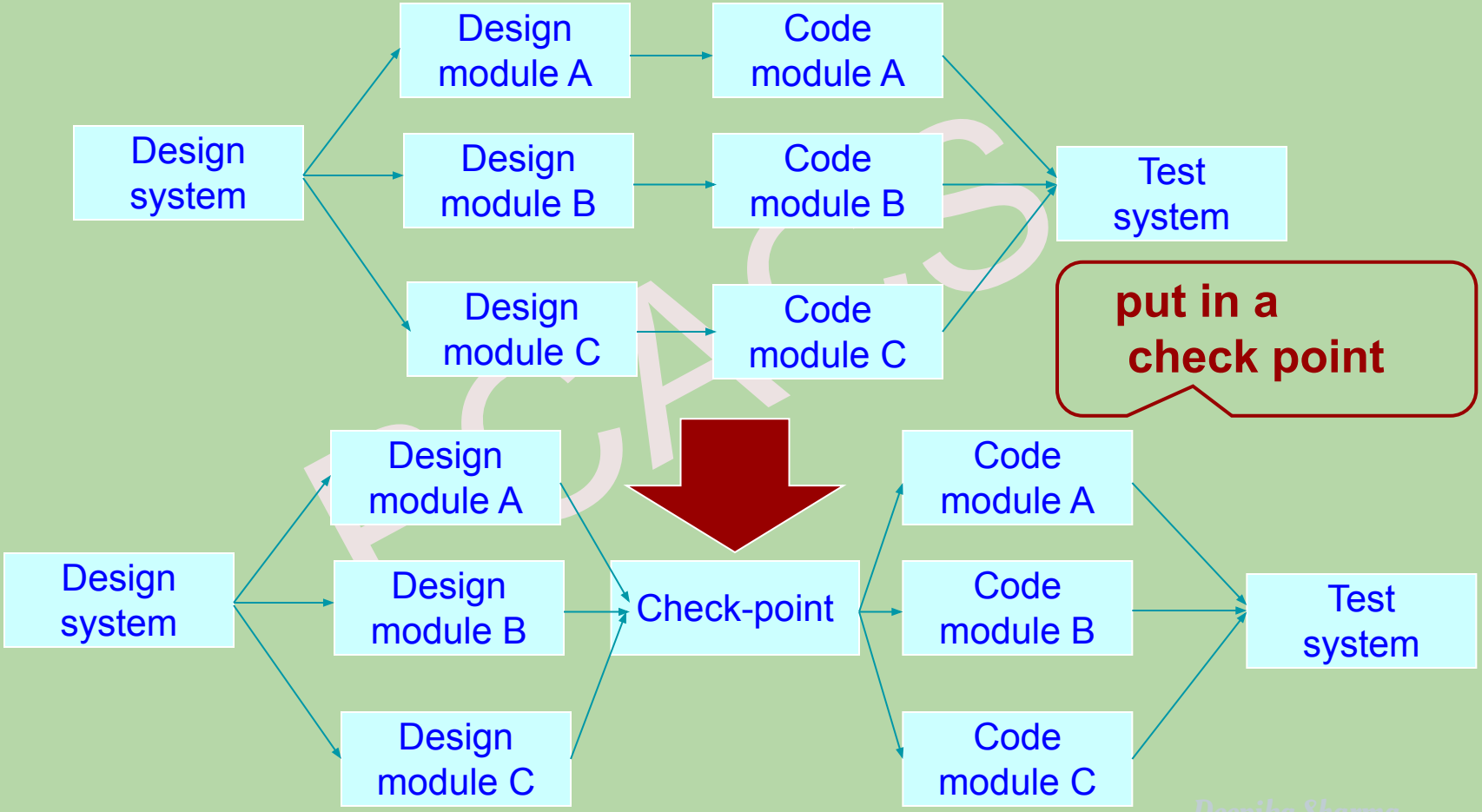
Activity Network Diagram



4.5 Modify the IDEAL Activity Network to take into account the need for stages & Checkpoints

- IDEAL Network assumes that the next activity will start as soon as the previous one gets over
- We may need to introduce some Checkpoints in between
- Trade-off has to be worked out between Efficiency and Quality

Step 4.5 Add check-points if needed



Step 5:Estimate effort for each activity

- 5.1 Carry out bottom-up estimates
  - distinguish carefully between *effort* and *elapsed* time
  - **Effort(total no. of staff hrs.)** - amount of work that needs to be done
  - **Elapsed time** - time between start and end of task
  - e.g. A Task - 3 people took 2 Days to complete
  - Effort in this is 3*2=6 days ; Elapsed time for task = 2 Days
  - Individual Activities Effort should be summed up to get an overall Bottom-up Estimate
- 5.2. Revise plan to create controllable activities
  - break up very long activities into a series of smaller ones
  - bundle up very short activities (create checklists?)

Step 6: Identify Activity Risks

6.1.Identify and quantify risks for activities

- damage if risk occurs (measure in time lost or money)
- likelihood of risk occurring

6.2. Plan risk reduction and contingency measures

- risk reduction: activity to stop risk occurring
- contingency: action if risk does occur

6.3 Adjust overall plans and estimates to take account of risks

- e.g. add new activities which reduce risks associated with other activities e.g. training, pilot trials, information gathering

https://www.youtube.com/watch?v=STIdiqwkYPM

Step 7: Allocate resources

7.1 Identify and Allocate Resources to Activities

7.2 Revise plans and estimates to take into account resource constraints

- Some staff may be needed for more than one task at the same time so order of priority is established
- e.g. staff not being available until a later date
- non-project activities

Gantt charts

LT = lead tester
TA = testing assistant