

Software Project Management

Lecture 4

Stepwise Project Planning

Introduction

- Products
- Steps continued..

Products

- The result of an activity
- 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')

Products

- 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
- Products CAN BE *deliverable* or *intermediate*

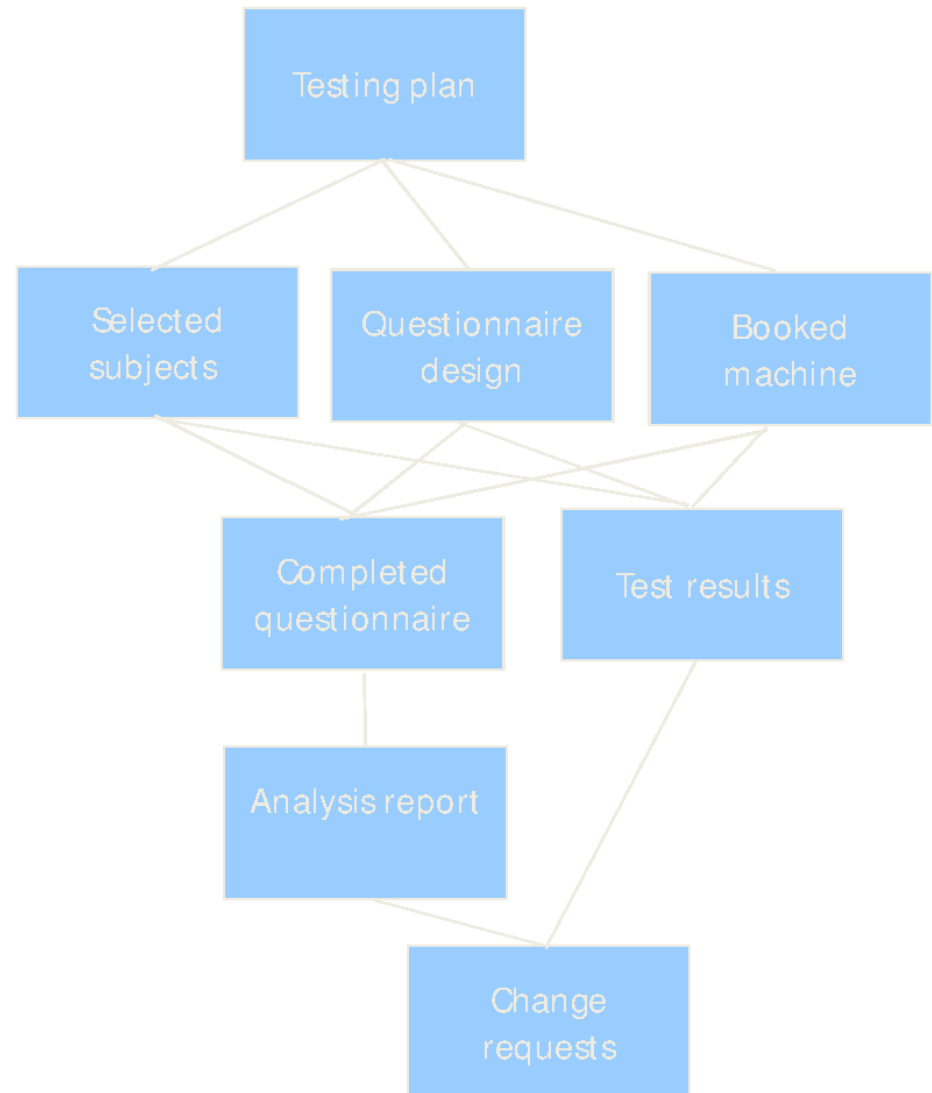
Product description (PD)

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

Create a PD for 'test data'

Step 4 continued

4.2 document Generic product flows



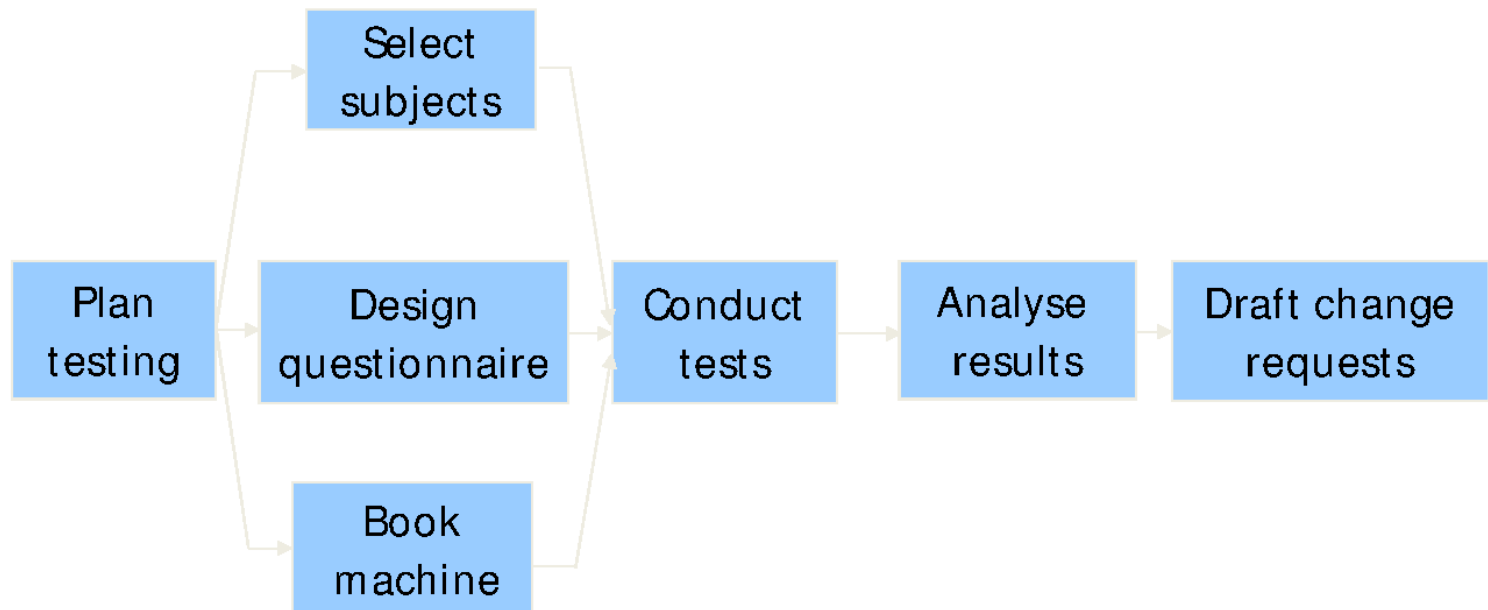
Step 4.3 Recognize product instances

- 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

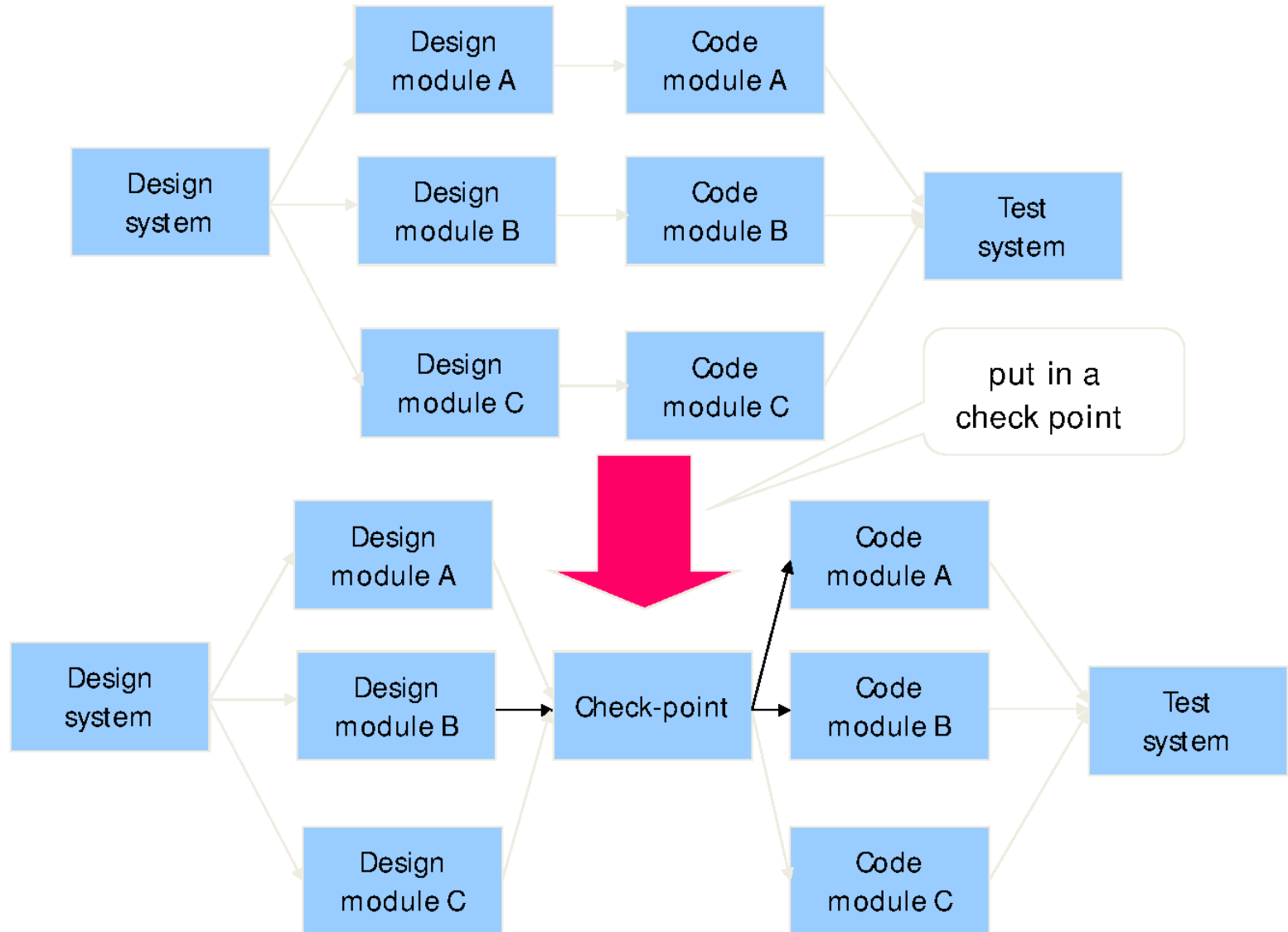
4.4. Produce ideal activity network

- Identify the activities needed to create each product in the PFD
- More than one activity might be needed to create a single product
- Hint: Identify activities by verb + noun but avoid 'produce...' (too vague)
- Draw up activity network

An 'ideal' activity



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*
- 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 check lists?)

Step 6: Identify activity risks

- 6.1. Identify and quantify risks for activities
 - damage if risk occurs (measure in time lost or money)
 - likelihood if 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

Step 7: Allocate resources

- 7.1 Identify and allocate resources to activities
- 7.2 Revise plans and estimates to take into account resource constraints
 - e.g. staff not being available until a later date
 - non-project activities

Gantt charts

LT = lead tester

TA = testing assistant

Week commencing

MARCH

APRIL

5

12

19

26

2

9

16

Plan testing



LT

Select subjects



TA

Design questionnaire



LT

Book machine



TA

Conduct tests



TA

Analyse results



LT

Draft changes



LT

Step 8: Review/ publicise plan

- 8.1 Review quality aspects of project plan
- 8.2 Document plan and obtain agreement

Step 9 and 10: Execute plan and create lower level plans

Applications

There have been several attempts to develop project management standards, such as:

- [Capability Maturity Model](#) from the [Software Engineering Institute](#).
- GAPPS, [Global Alliance for Project Performance Standards](#) – an open source standard describing COMPETENCIES for project and program managers.
- [A Guide to the Project Management Body of Knowledge](#) from the [Project Management Institute](#) (PMI)
- [HERMES method](#), Swiss general project management method, selected for use in Luxembourg and international organizations.
- The ISO standards [ISO 9000](#), a family of standards for quality management systems, and the [ISO 10006:2003](#), for Quality management systems and guidelines for quality management in projects.
- [PRINCE2](#), PRojects IN Controlled Environments.
- [Association for Project Management](#) Body of Knowledge^[33]
- [Team Software Process](#) (TSP) from the [Software Engineering Institute](#).
- [Total Cost Management](#) Framework, AACE International's Methodology for Integrated Portfolio, Program and Project Management.
- [V-Model](#), an original systems development method.
- The [Logical framework approach](#), which is popular in international development organizations.
- [IAPPM](#), The International Association of Project & Program Management, guide to project auditing and rescuing troubled projects

Research

- **Project portfolio management**

An increasing number of organizations are using, what is referred to as, [project portfolio management](#) (PPM) as a means of selecting the right projects and then using project management techniques as the means for delivering the outcomes in the form of benefits to the performing private or not-for-profit organization.

Reference Link:

http://en.wikipedia.org/wiki/Project_management