

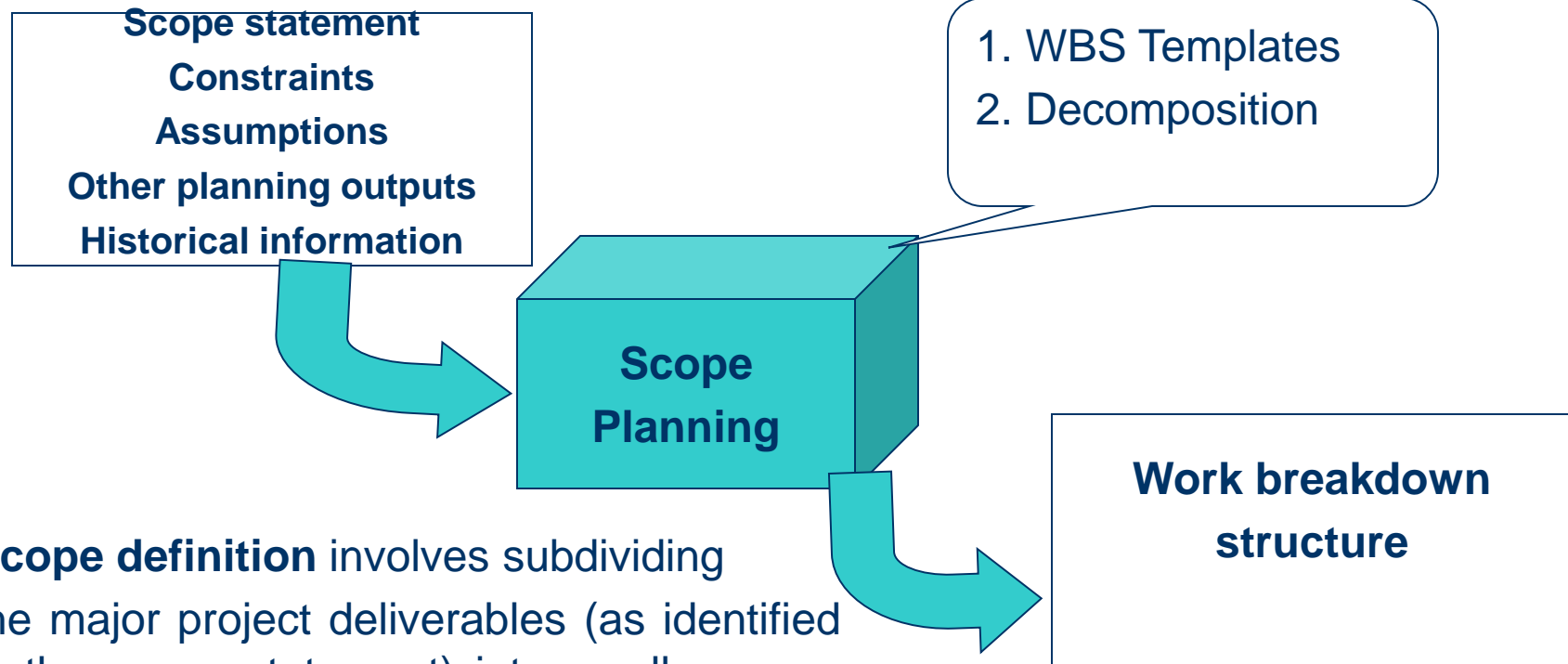
“Running a project without a work breakdown structure is like going to strange land without a road map” – J Phillips

Defining and controlling what is or is not included in the project.

Project Scope Management Lecture



3. Scope Definition:



Scope definition involves subdividing the major project deliverables (as identified in the scope statement) into smaller, more manageable components

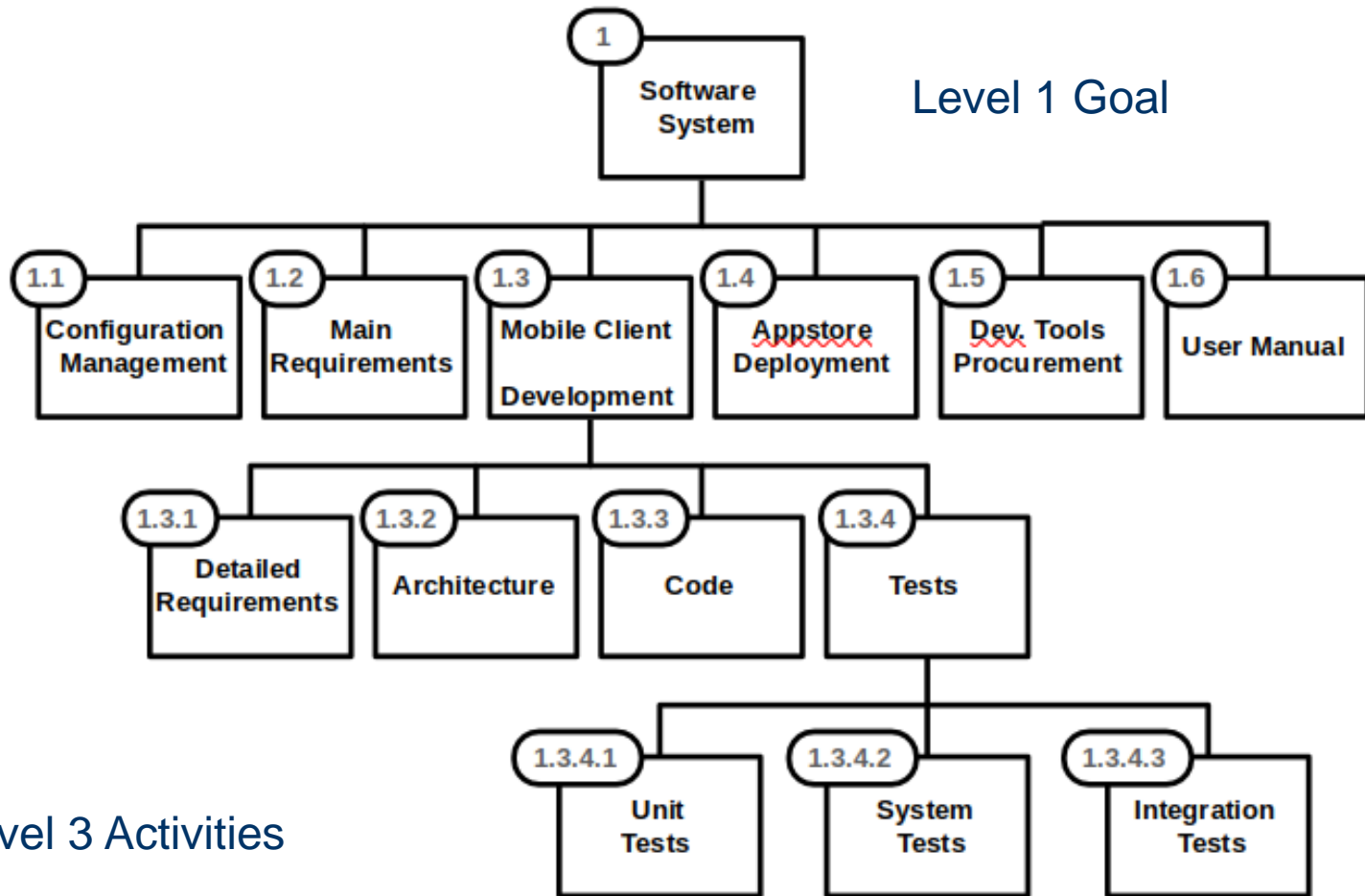
Work Breakdown Structure (WBS)

- Displays and defines the product to be developed or produced by hardware, software, support, and/or service element, and relates the work scope elements to each other and to the end product (s).
- A WBS, up to level 3, is developed during the proposal as level three of the WBS is the normal reporting level of external contractual information. Standards are to be followed if required by the customer
- After Contract award, the Project Manager expands the WBS into a Contract Work Breakdown Structure (CWBS) as the initial step in the planning process.

What is a WBS?

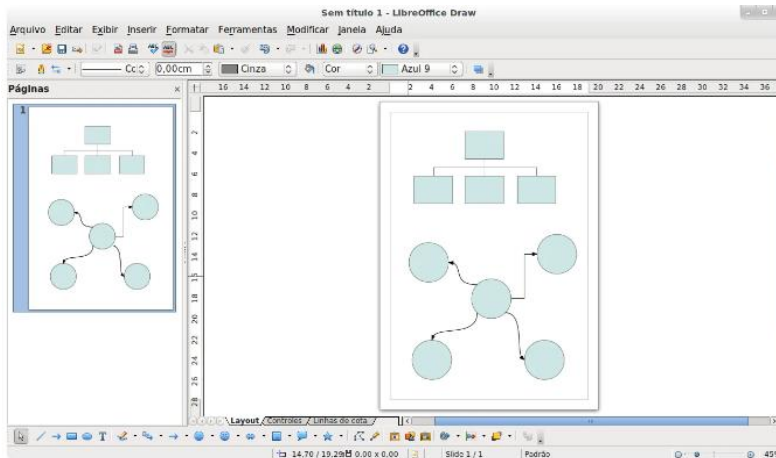
A **Work Breakdown Structure** is a (deliverable-oriented) hierarchical decomposition of the work to be executed by the project team to accomplish projects objectives and create the required deliverable

WBS Example



WBS

- Two formats
 - Graphical tree (Vision, Graffle, LibreOffice, ...)
 - Textual outline (MS Word, Text Editor, Outliner, ...)
- Uses a decimal numbering system to identify elements (Ex: 3.1.5)
- Shows “**is contained in**” relationships
- Does not show dependencies nor durations



Libre office Draw

The screenshot shows the MS Word application window with the 'References' tab selected. The 'Table of Contents' pane is open, displaying a built-in automatic table of contents. The table lists the following items and their page numbers:

Automatic Table 1	
Contents	1
Heading 1	1
Heading 2	1
Heading 3	1

Automatic Table 2	
Table of Contents	1
Heading 1	1
Heading 2	1
Heading 3	1

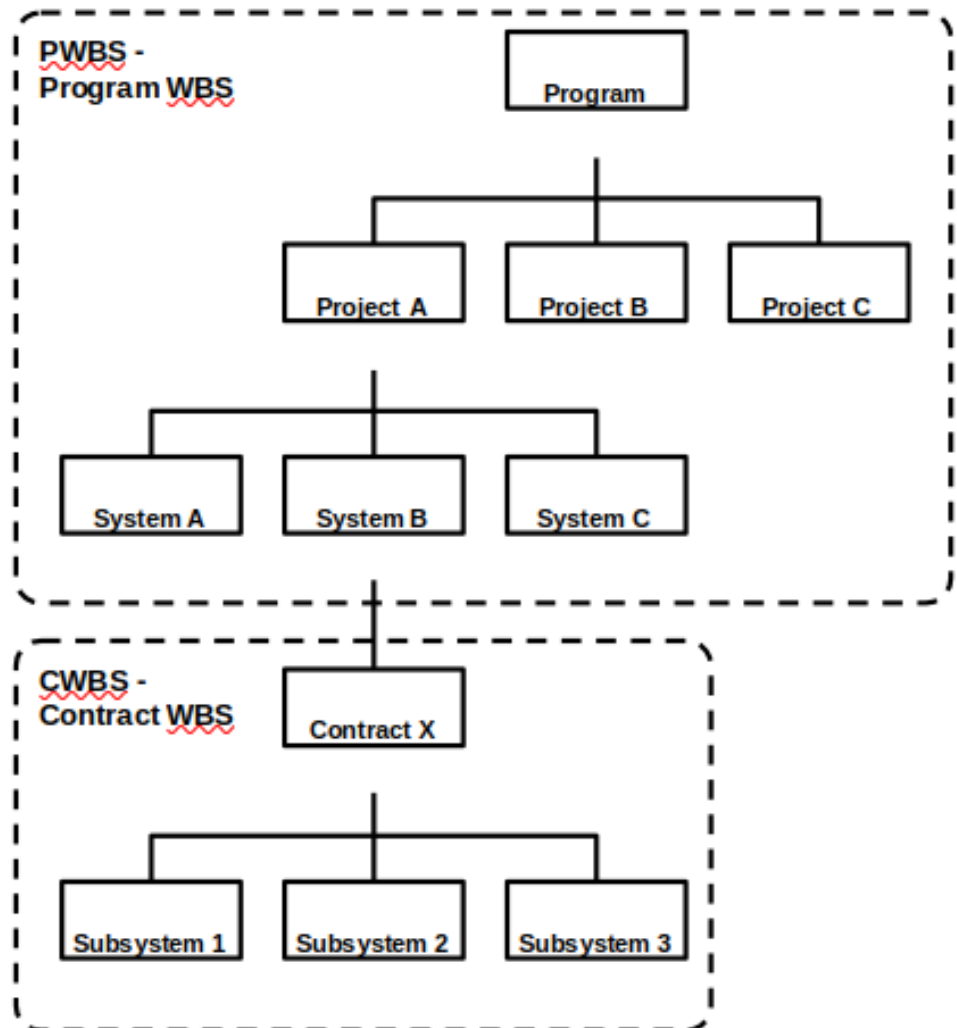
Textual Outline
MS Word

Why is it useful?

- A WBS establishes the basis for:
 - **Defining the work to be performed** in a project
 - Showing how various **activities are related to the project objectives**
 - Identifying the **organizational elements** responsible for accomplishing the work

WBS Type

- **PWBS**: Program (project) WBS, used to coordinate all projects (systems)
- **CWBS**: Contract WBS, basis for subcontracting system development



Work Breakdown Structure (WBS)

- It is outcome oriented analysis of the work involved in a project that defines total scope of the project.
- Foundation document:
 - Basis for project planning and managing of schedule, cost and changes

WBS expansion will extend the Contract Work Breakdown Structure CWBS a minimum of one level below the negotiated external reporting level. Why?

Work Breakdown Structure (WBS)

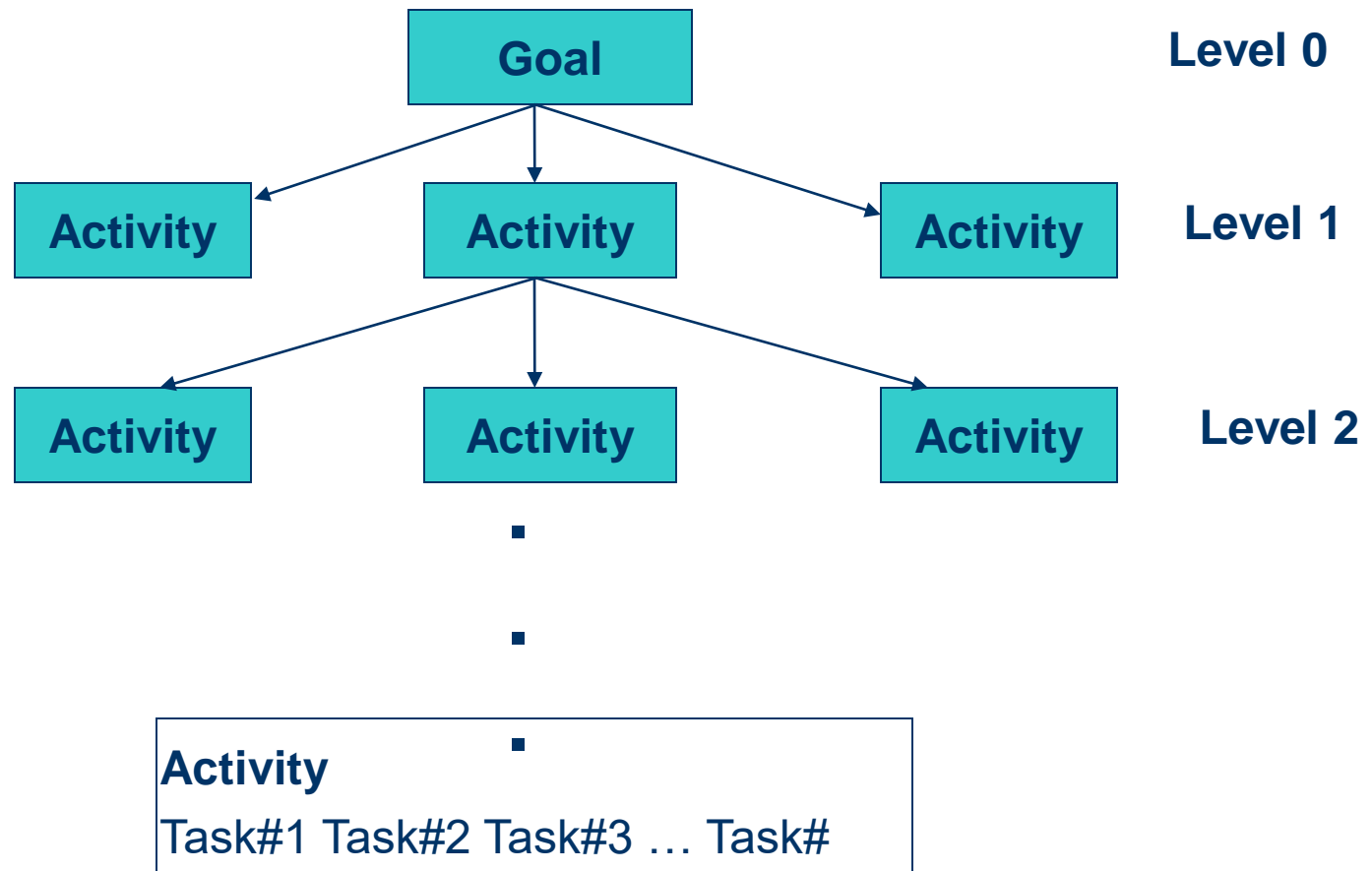


This sets up: The framework for work scope definitions and assignments to the functional organizations.

One and only one CWBS exists for each contract and once created will exist for the life of the contract.

Only a formal contract change will effect a change in the WBS.....

Hierarchy of WBS



Types of work breakdown structures



There are **two** types of work breakdown structures commonly employed in project management:

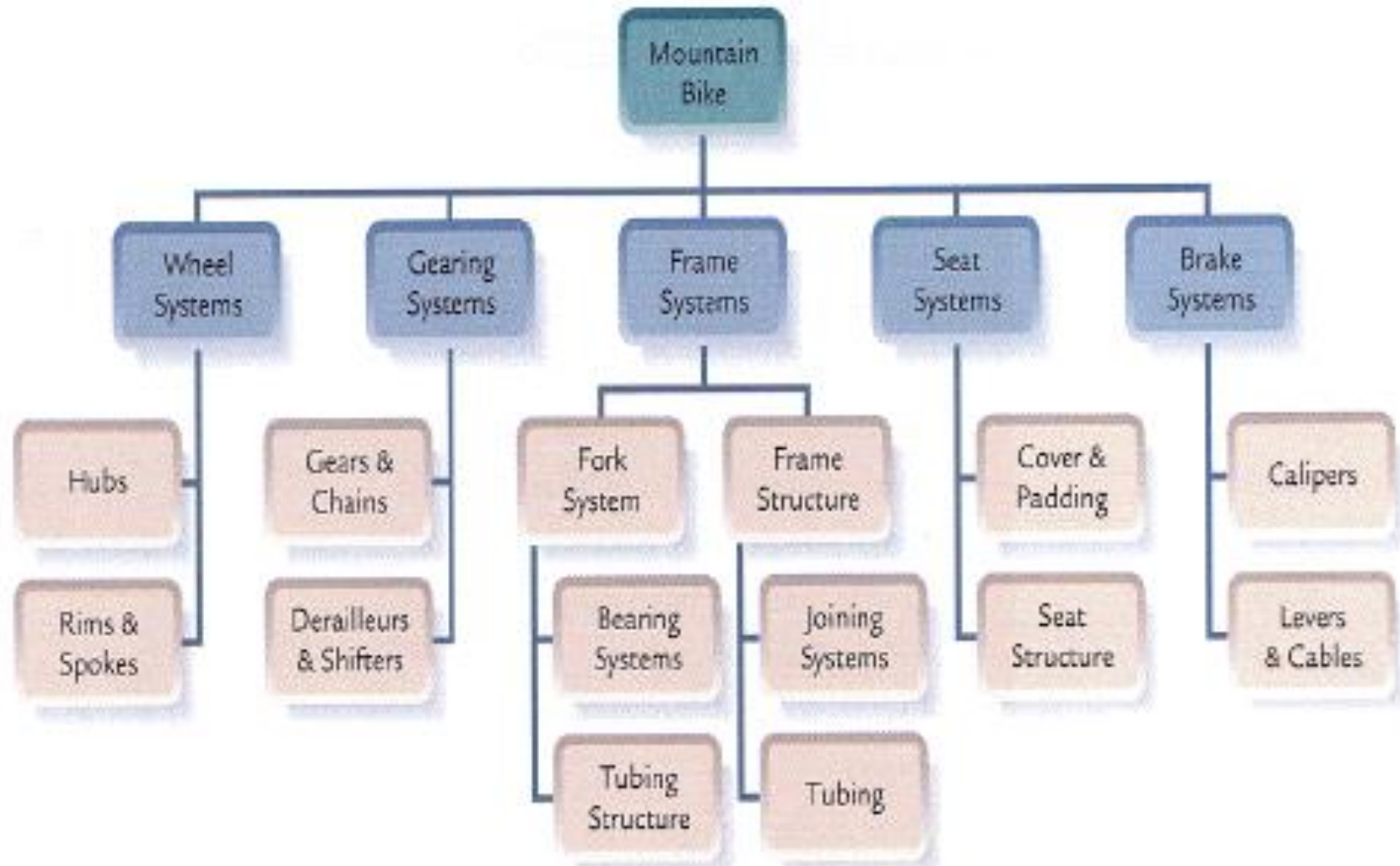
Product Oriented or deliverable-oriented WBS

Process-oriented WBS

Product Based WBS

A **product breakdown structure** is an effective tool that details the **physical components** of a particular product, or system, under consideration. The formal PBS comes in the form of a hierarchy. It begins with the final product at the top of the hierarchy

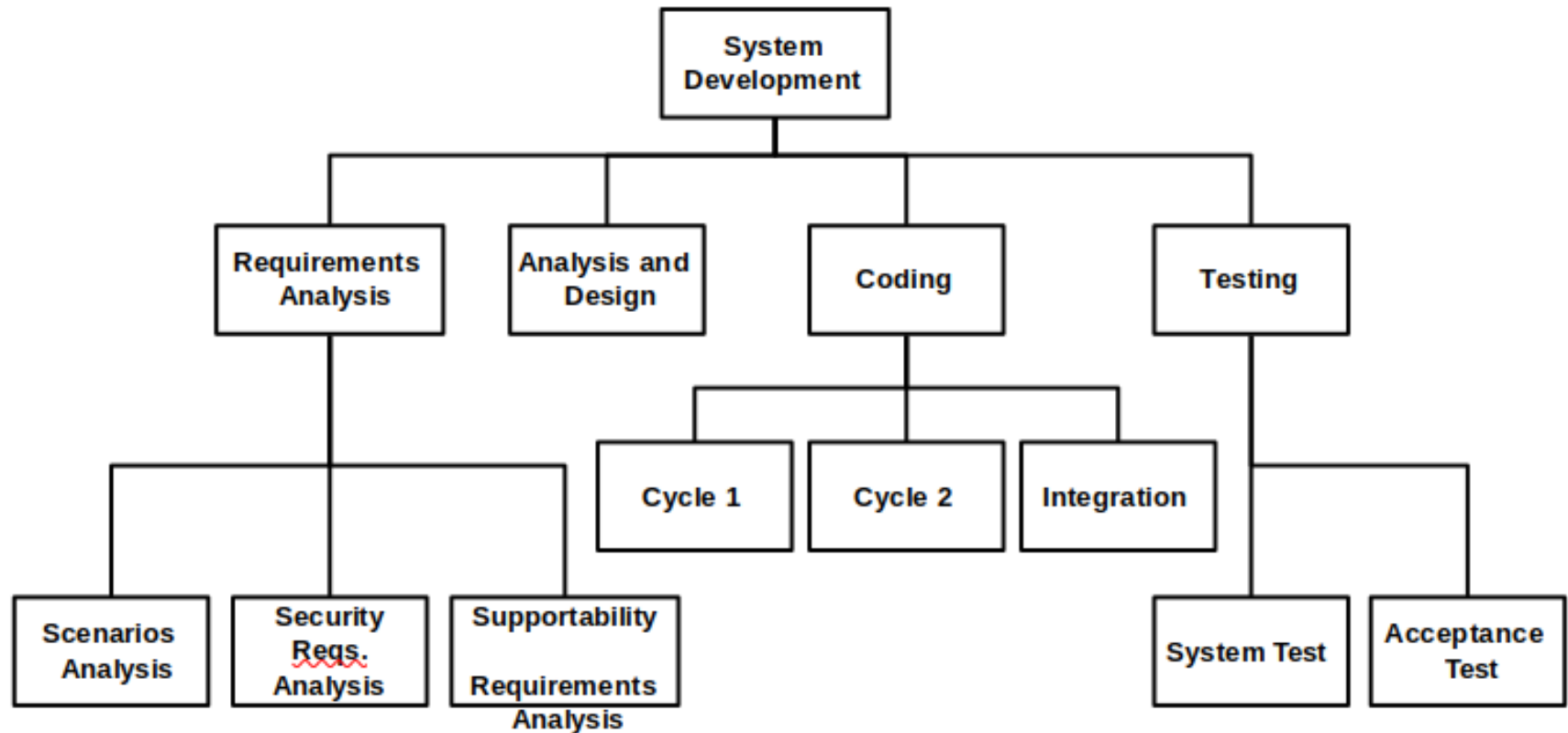
Product Based WBS



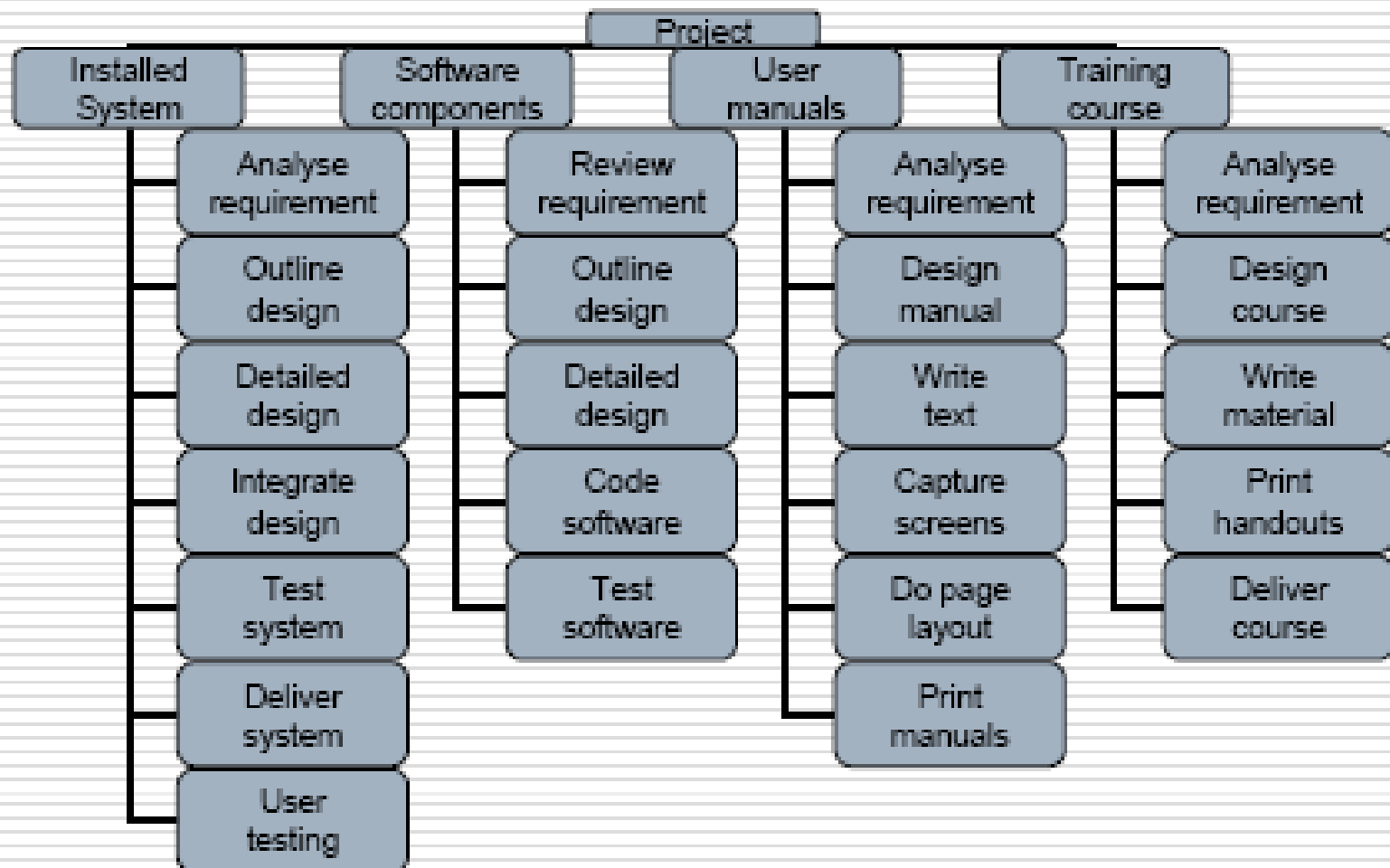
Process Oriented WBS

A **process-oriented WBS** defines a project in **terms of steps, work phases, or functions**. This type of WBS is focused on the **steps** that need to be taken within individual disciplines to complete a project

Process WBS Example



WBS based on deliverables (hybrid)



Exercise: What type of WBS is this one? Identify each entry if hybrid.

Quiz



How do you think Project life cycle act as a tool, in Project Management ?
How Risk factor affects Project Life Cycle ?