

Unit II

Domain Processes

Scope Planning and the Scope Statement

- ▶ A scope statement is a document used to develop and confirm a common understanding of the project scope. It should include
 - ▶ a project justification
 - ▶ a brief description of the project's products
 - ▶ a summary of all project deliverables
 - ▶ a statement of what determines project success

Scope Planning and the Work Breakdown Structure

- ▶ After completing scope planning, the next step is to further define the work by breaking it into manageable pieces
- ▶ Good scope definition
 - ▶ helps improve the accuracy of time, cost, and resource estimates
 - ▶ defines a baseline for performance measurement and project control
 - ▶ aids in communicating clear work responsibilities

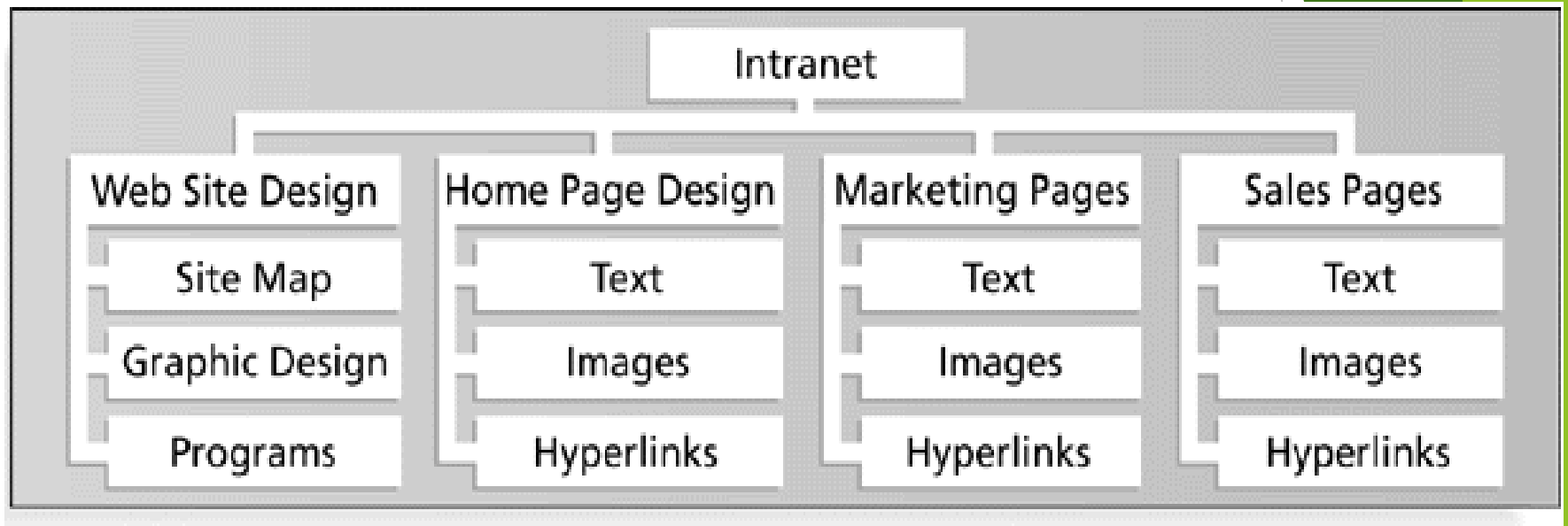
The Work Breakdown Structure

- ▶ A work breakdown structure (WBS) is an outcome-oriented analysis of the work involved in a project that defines the total scope of the project
- ▶ It is a foundation document in project management because it provides the basis for planning and managing project schedules, costs, and changes

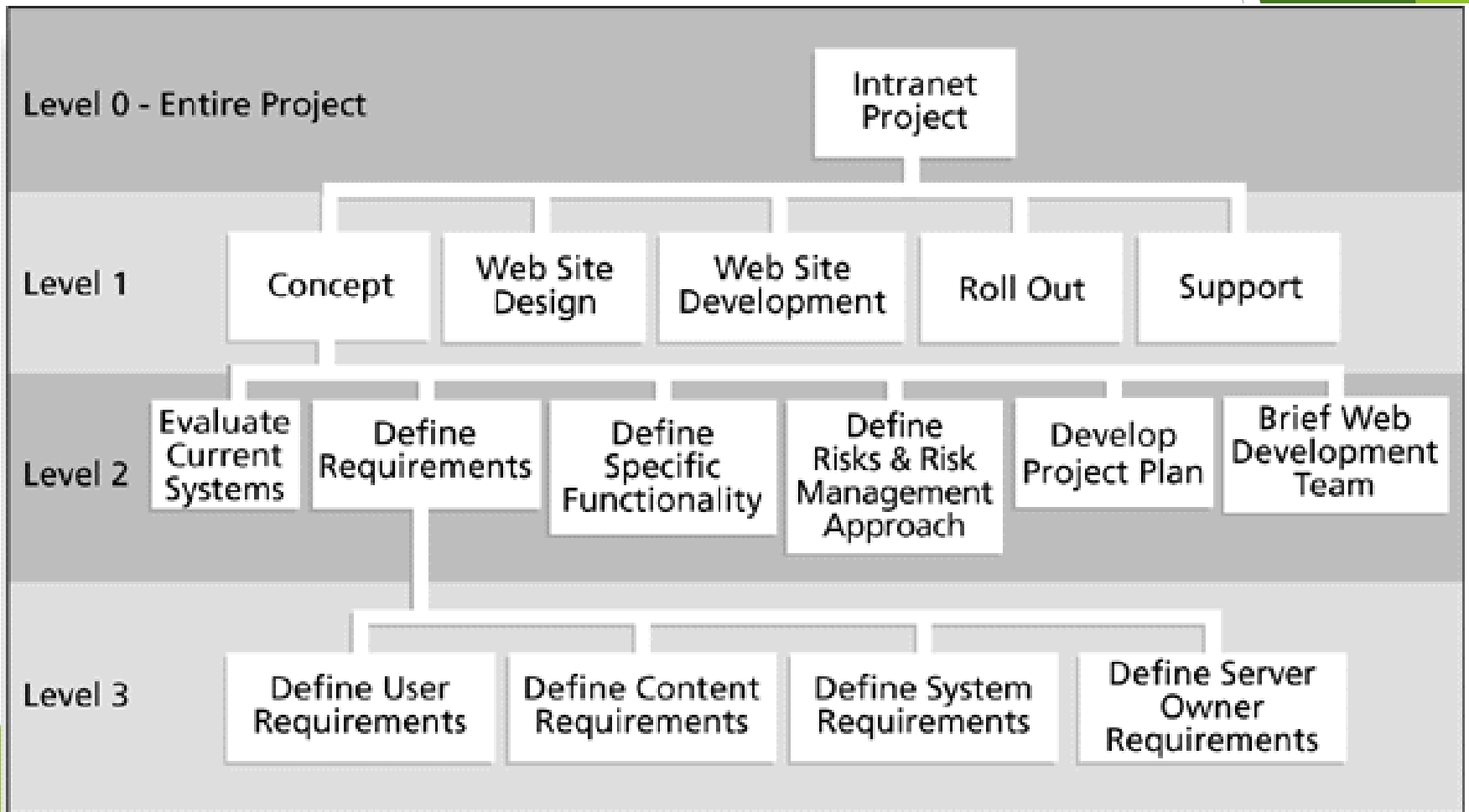
WBS

- ▶ WBS was initially developed by the U.S. defense establishment, and it is described in Military Standard (MIL-STD) 881B (25 Mar 93) as follows:
- ▶ "A work breakdown structure is a product-oriented family tree composed of hardware, software, services, data and facilities [it] displays and defines the product(s) to be developed and/or produced and relates the elements of work to be accomplished to each other and to the end product(s)."

Sample Intranet WBS Organized by Product



Sample Intranet WBS Organized by Phase



Intranet WBS in Tabular Form

1.0 Concept

1.1 Evaluate current systems

1.2 Define Requirements

1.2.1 Define user requirements

1.2.2 Define content requirements

1.2.3 Define system requirements

1.2.4 Define server owner requirements

1.3 Define specific functionality

1.4 Define risks and risk management approach

1.5 Develop project plan

1.6 Brief web development team

2.0 Web Site Design

3.0 Web Site Development

4.0 Roll Out

5.0 Support

Approaches to Developing WBSs

- ▶ Using guidelines: Some organizations, like the DOD, provide guidelines for preparing WBSs
- ▶ The analogy approach: It often helps to review WBSs of similar projects
- ▶ The top-down approach: Start with the largest items of the project and keep breaking them down
- ▶ The bottoms-up approach: Start with the detailed tasks and roll them up

Basic Principles for Creating WBSs*

1. A unit of work should appear at only one place in the WBS.
2. The work content of a WBS item is the sum of the WBS items below it.
3. A WBS item is the responsibility of only one individual, even though many people may be working on it.
4. The WBS must be consistent with the way in which work is actually going to be performed; it should serve the project team first and other purposes only if practical.
5. Project team members should be involved in developing the WBS to ensure consistency and buy-in.
6. Each WBS item must be documented to ensure accurate understanding of the scope of work included and not included in that item.
7. The WBS must be a flexible tool to accommodate inevitable changes while properly maintaining control of the work content in the project according to the scope statement.

*Cleland, David I. *Project Management: Strategic Design and Implementation*, 1994

Scope Verification and Scope Change Control

- ▶ It is very difficult to create a good scope statement and WBS for a project
- ▶ It is even more difficult to verify project scope and minimize scope changes
- ▶ Many IT projects suffer from scope creep and poor scope verification

Factors Causing IT Project Problems*

Factor	Rank
Lack of user input	1
Incomplete requirements and specifications	2
Changing requirements and specifications	3
Lack of executive support	4
Technology incompetence	5
Lack of resources	6
Unrealistic expectations	7
Unclear objectives	8
Unrealistic time frames	9
New Technology	10

*Johnson, Jim, "CHAOS: The Dollar Drain of IT Project Failures," Application Development Trends, January 1995, www.stadishgroup.com/chaos.html

Suggestions for Improving User Input

- ▶ Insist that all projects have a sponsor from the user organization
- ▶ Have users on the project team
- ▶ Have regular meetings
- ▶ Deliver something to project users and sponsor on a regular basis
- ▶ Co-locate users with the developers

Suggestions for Reducing Incomplete and Changing Requirements

- ▶ Develop and follow a requirements management process
- ▶ Employ techniques such as prototyping, use case modeling, and Joint Application Design to thoroughly understand user requirements
- ▶ Put all requirements in writing and current
- ▶ Create a requirements management database
- ▶ Provide adequate testing
- ▶ Use a process for reviewing requested changes from a systems perspective
- ▶ Emphasize completion dates