Mod. 3: Project Planning

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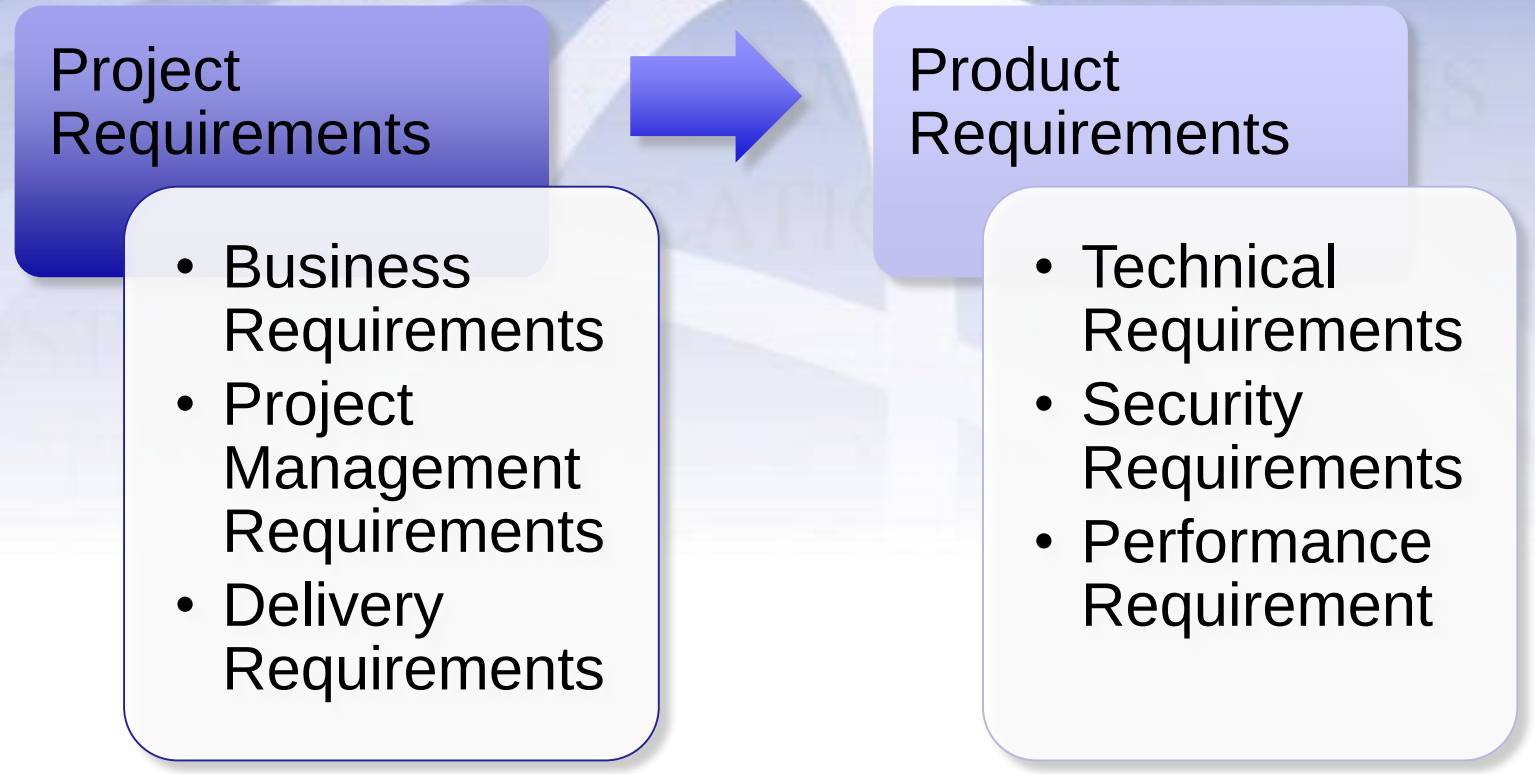
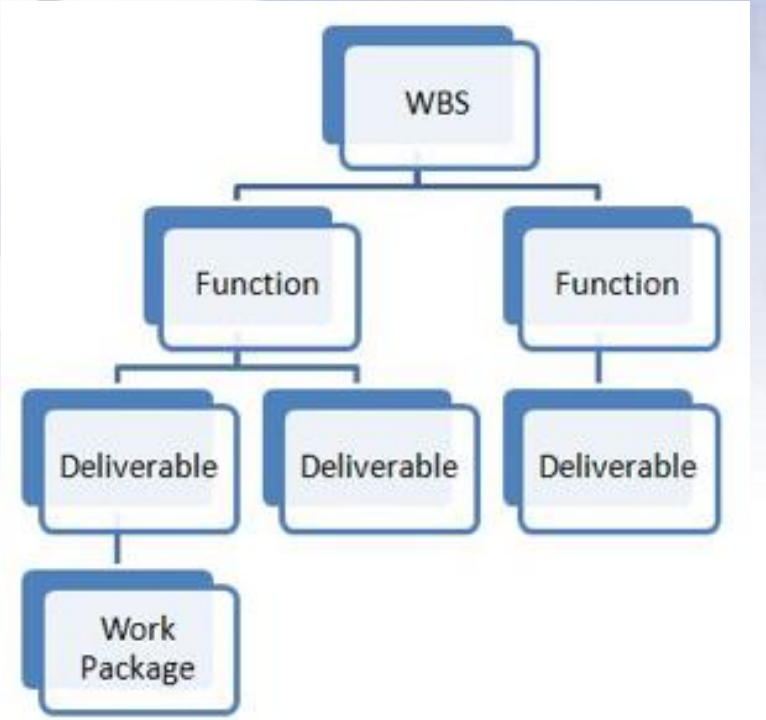
Two Aspects of Managing Scope



WBS Definition

PMBOK® Guide Definition

A deliverable-oriented grouping of project elements that organizes and defines the total work scope of the project. Each descending level represents an increasingly detailed definition of the project work.



Work Breakdown Structure

- The tool for breaking down a project into its component parts.
- It is the foundation of project planning and one of the most important techniques used in project management.

WBS Decomposition

WBS LEVEL 1:

1. Bicycle 100

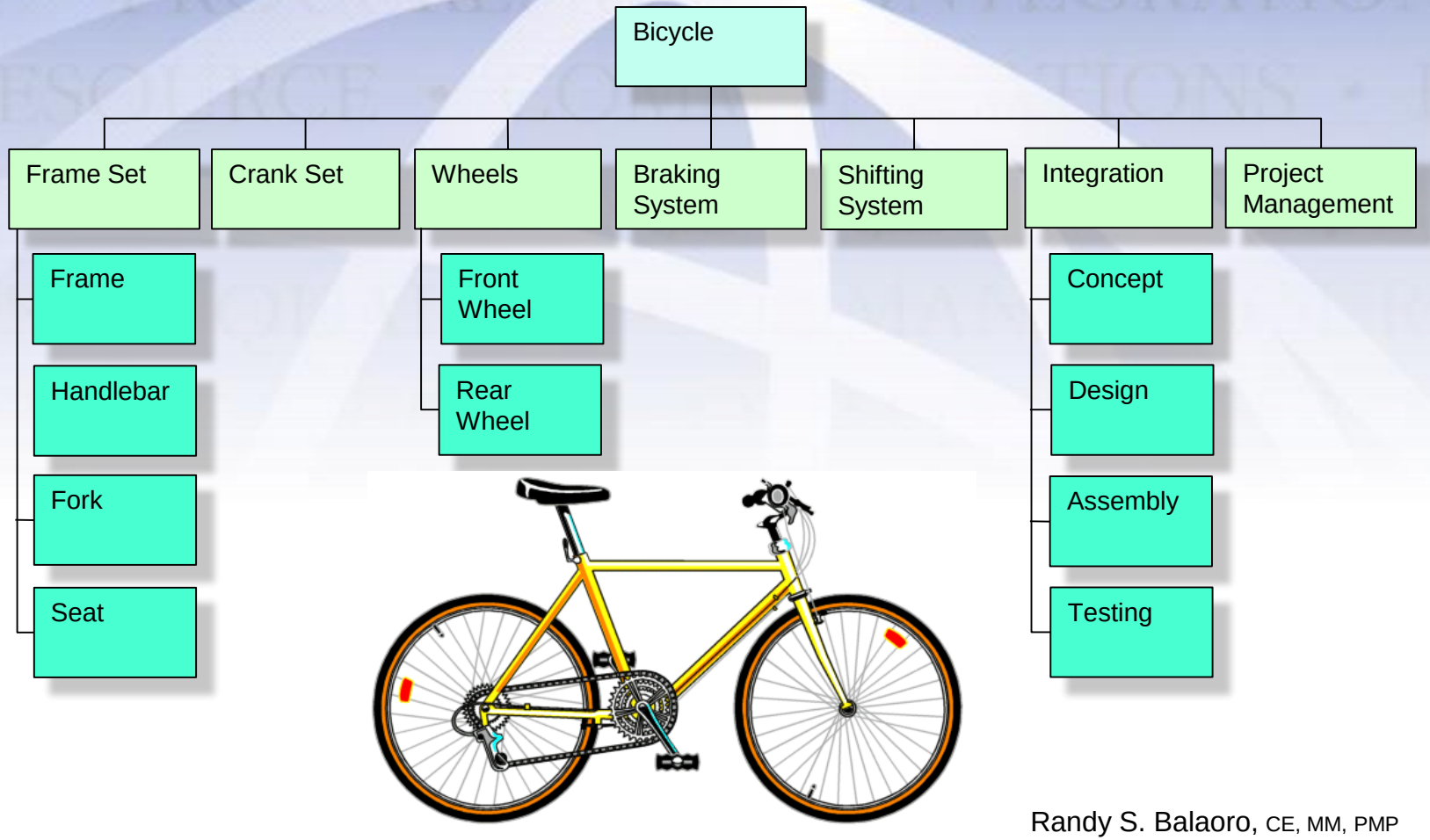
WBS LEVEL 2:

1. Bicycle
   - 1.1 Frame Set
   - 1.2 Crank Set
   - 1.3 Wheels
   - 1.4 Braking System
   - 1.5 Shifting System
   - 1.6 Integration
   - 1.7 Project Mgt.

WBS LEVEL 3:

1. Bicycle
   - 1.1 Frame Set
     - 1.1.1 Frame
     - 1.1.2 Handlebar
     - 1.1.3 Fork
     - 1.1.4 Seat
   - 1.2 Crank Set
   - 1.3 Wheels
     - 1.3.1 Front Wheel
     - 1.3.2 Rear Wheel
   - 1.4 Braking System
   - 1.5 Shifting System
   - 1.6 Integration
     - 1.6.1 Concept
     - 1.6.2 Design
     - 1.6.3 Assembly
     - 1.6.4 Testing
   - 1.7 Project Mgt.

WBS in Graphical Form



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WBS in Outline Form

1. Bicycle
   - 1.1 Frame Set
     - 1.1.1 Frame
     - 1.1.2 Handlebar
     - 1.1.3 Fork
     - 1.1.4 Seat
   - 1.2 Crank Set
   - 1.3 Wheels
     - 1.3.1 Front Wheel
     - 1.3.2 Rear Wheel
   - 1.4 Braking System
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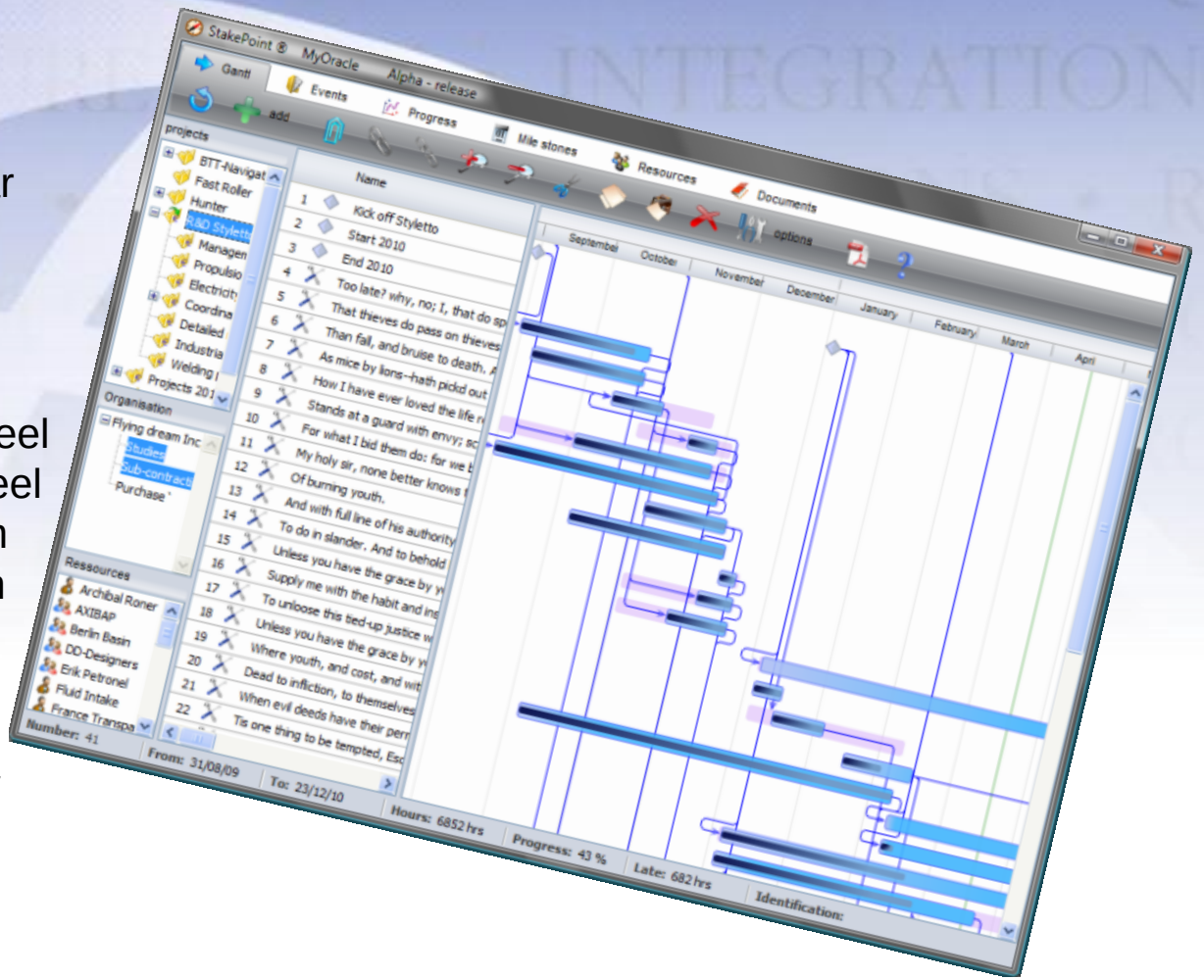

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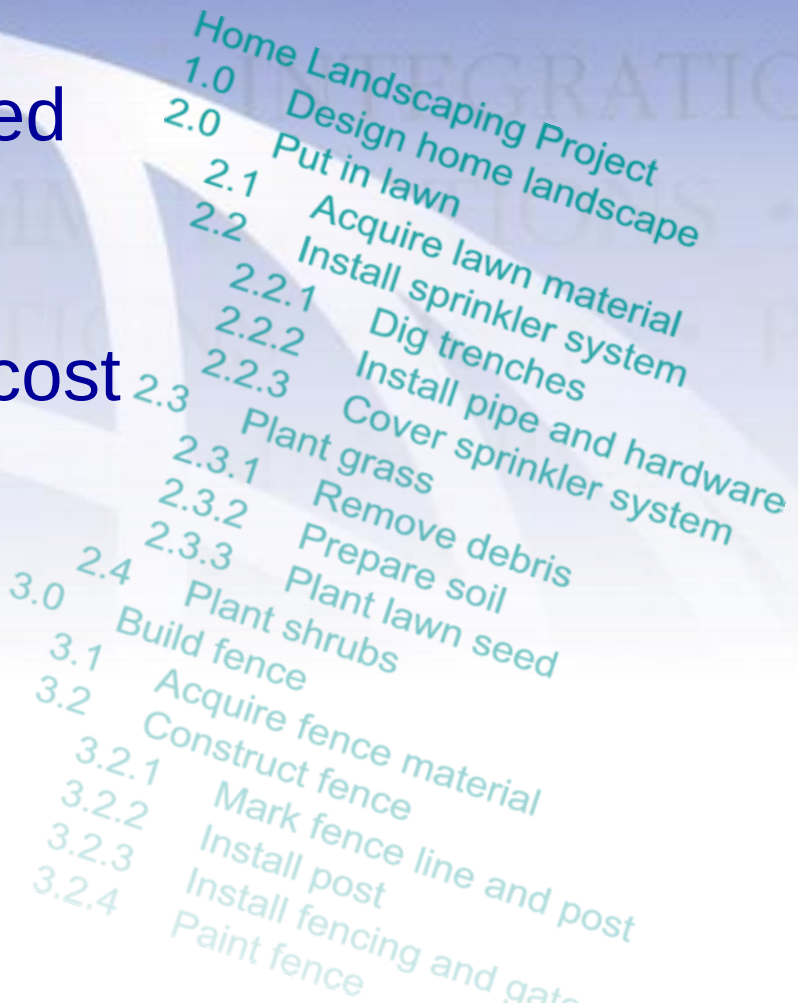
Advantages of WBS

- Provides a detailed illustration of the project scope
- Create accurate cost and schedule estimates
- Monitor progress easily
- Basis for building project teams



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WBS Decomposition

There is no single best way to develop a WBS.

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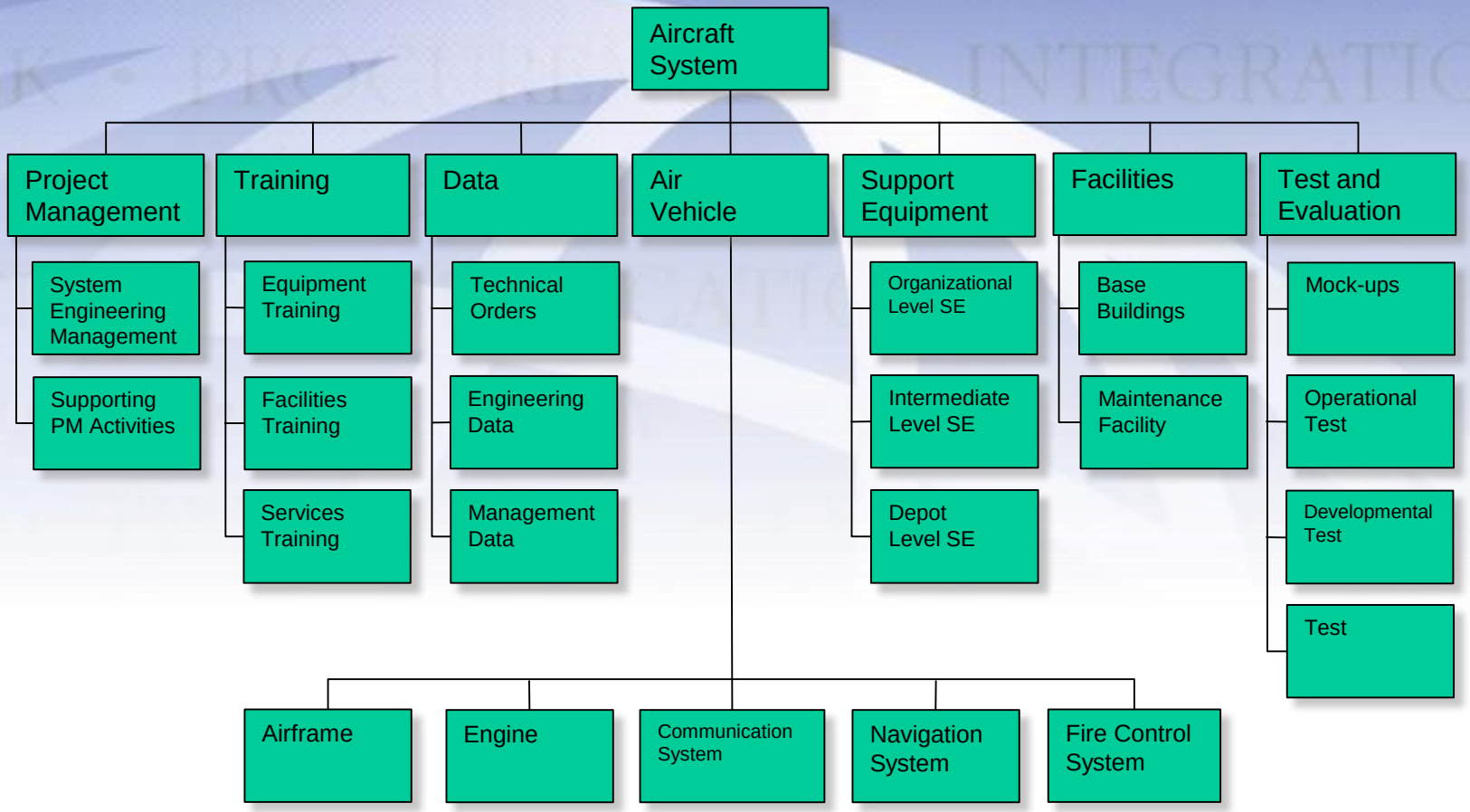
WBS for Aircraft Development



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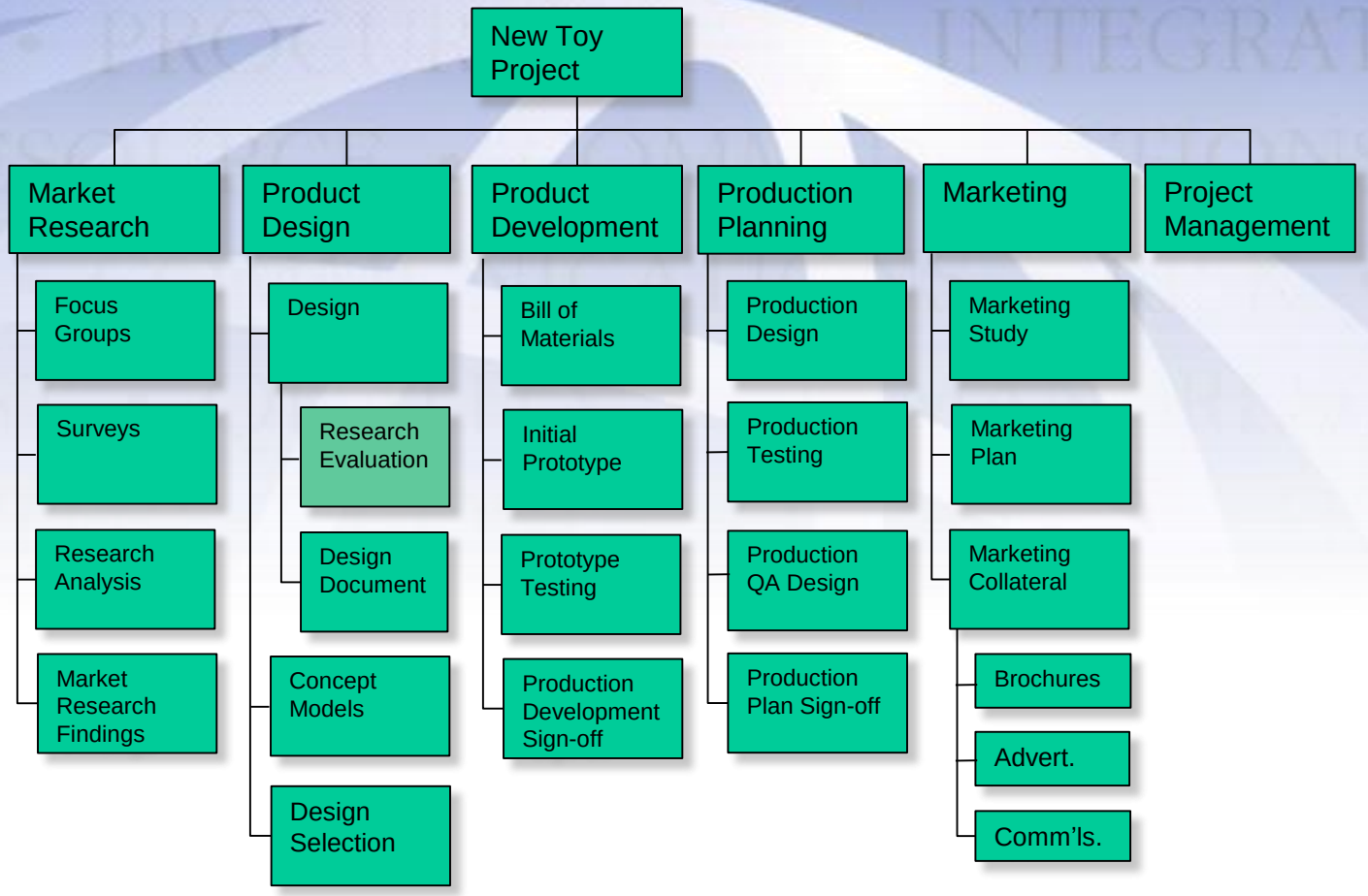
WBS for New Toy Project



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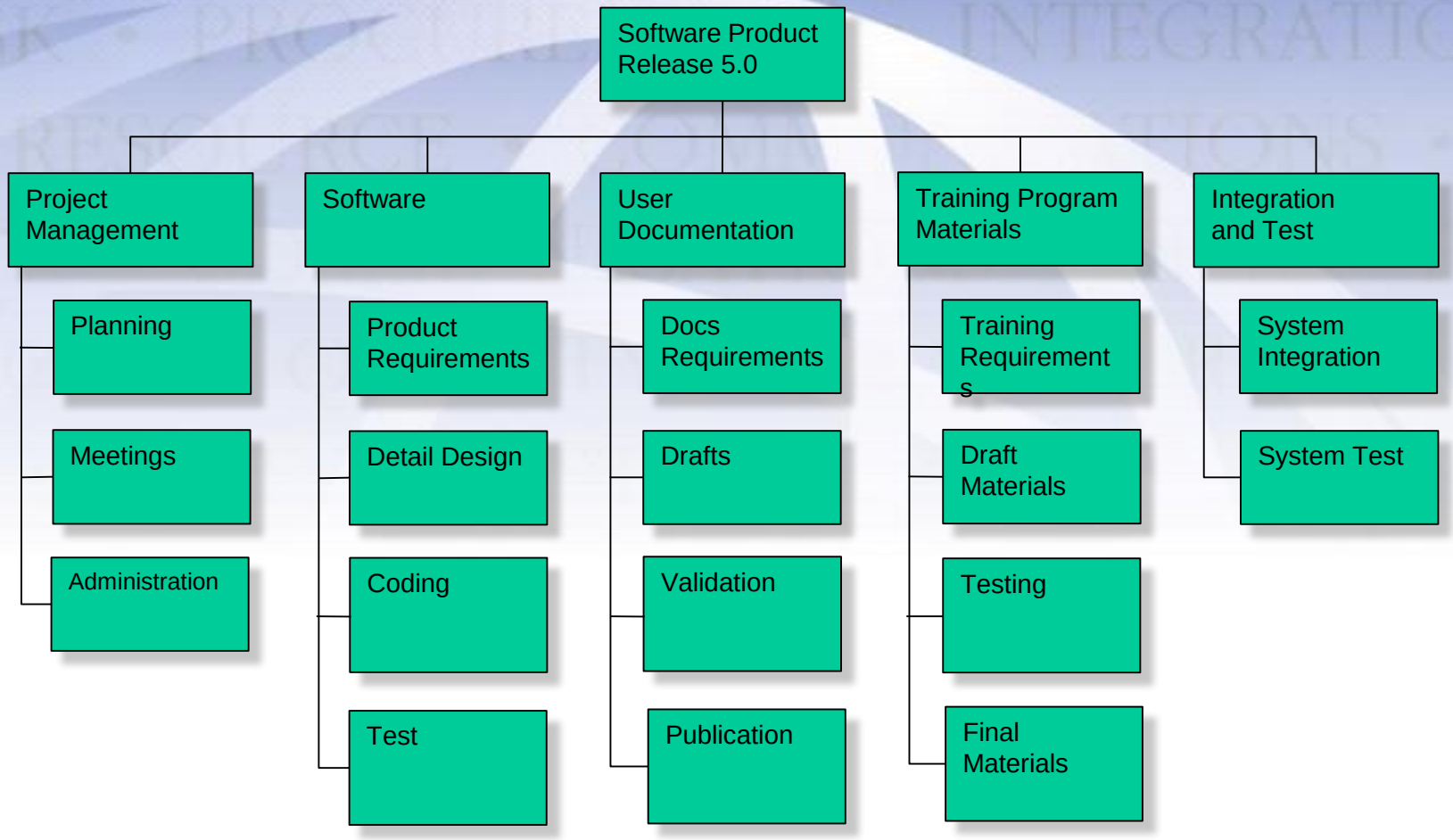
WBS for Software Development Project



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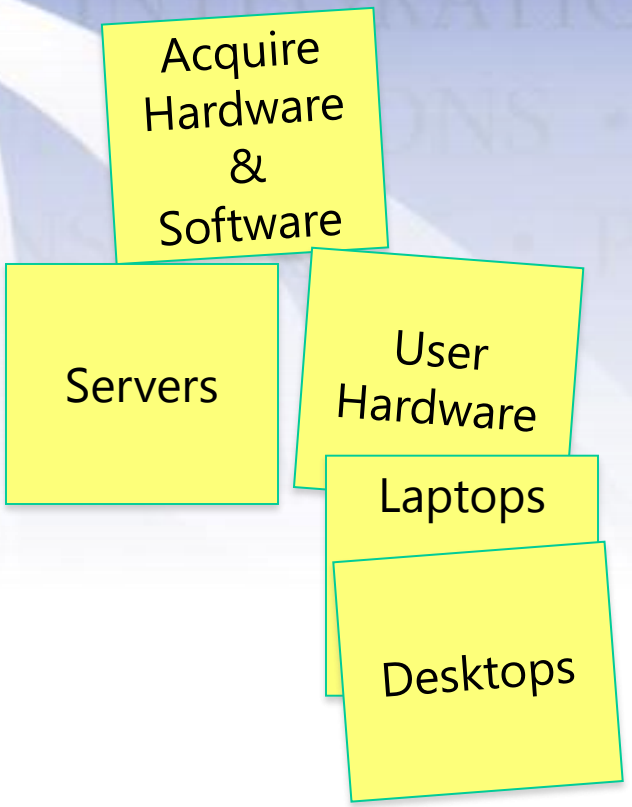
Criteria for a Successful WBS

- WBS must be broken down starting at the top
- Work packages must add up to the summary task
- Each summary task and work package must be named an activity that produces a product (use SMART Technique)



Criteria for a Successful WBS

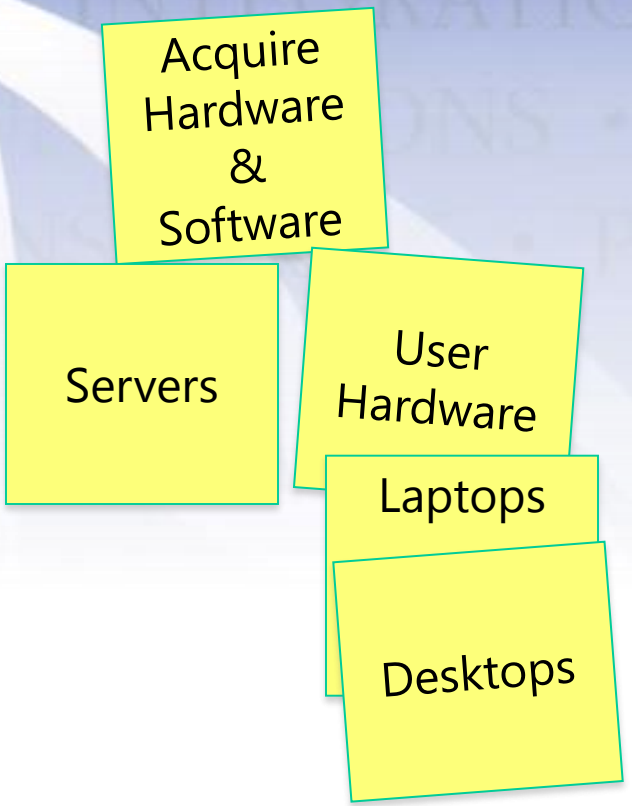
Specific

Measurable

Achievable

Relevant

Time-bound



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Approaches to Developing WBS

- **Guidelines**: Some organizations, provide guidelines for preparing WBS.
- **Analogy approach**: Review WBS of similar projects and tailor to your project.
- **Top-down approach**: Start with the largest items of the project and break them down.
- **Bottom-up approach**: Start with the specific tasks and roll them up.
- **Mind-mapping approach**: Write tasks in a non-linear, branching format and then create the WBS structure.

End of Presentation

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