How to Create a Work Breakdown Structure (WBS) in Project Management

Create WBS is the process of subdividing project deliverables and project work into smaller, more manageable components.

Dividing complex projects to simpler and manageable tasks is the process identified as Work Breakdown Structure (WBS). Usually, the project managers use this method for simplifying the project execution.

In WBS, much larger tasks are broken-down to manageable chunk/work package of work. These chunks can be easily supervised and estimated.

A work breakdown structure.

In project management and systems engineering, is a deliverable oriented decomposition of a project into smaller components.

A work breakdown structure element may be a product, data, a service, or any combination.

A WBS also provides the necessary framework for detailed cost estimating and control along with providing guidance for schedule development and control

WBS helps manager Facilitates evaluation of cost, time, and technical performance of the organization on a project.
 Provides management with information appropriate to each organizational level.
Helps in the development of the organization. breakdown structure which assigns project responsibilities to organizational units and individuals◦ Helps manager plan, schedule, and budget. Defines communication channels and assists in coordinating the various project elements.
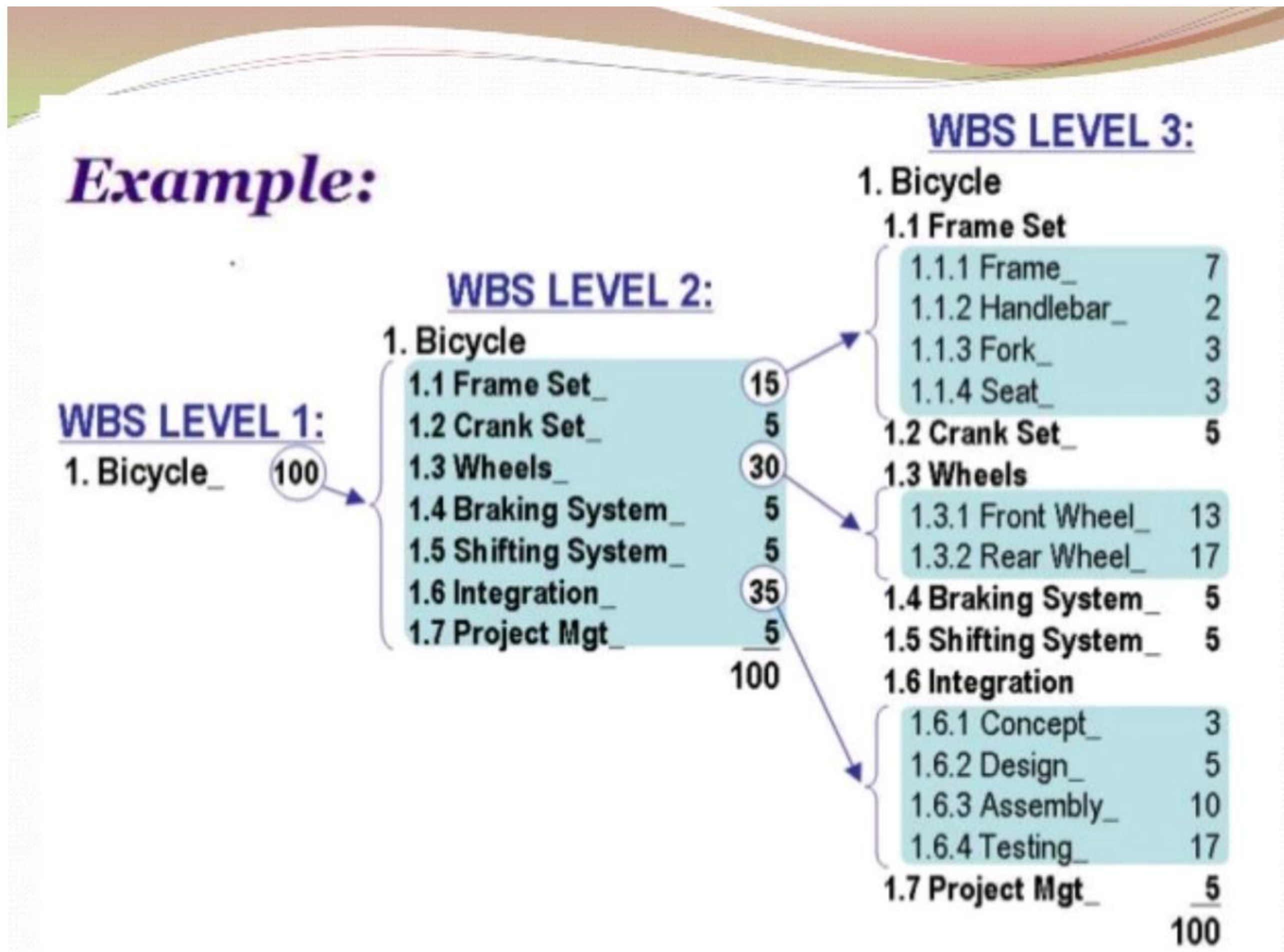
example of outlined WBS.

The rule applies at all levels within the hierarchy: the sum of the work at the "child" level must equal 100% of the work represented by the "parent" and the WBS should not include any work that falls outside the actual scope of the project, that is, it cannot include more than 100% of the work

Example:

WBS LEVEL 1:

1. Bicycle_ 100

WBS LEVEL 2:

1. Bicycle
   1.1 Frame Set_ 15
   1.2 Crank Set_ 5
   1.3 Wheels_ 30
   1.4 Braking System_ 5
   1.5 Shifting System_ 5
   1.6 Integration_ 35
   1.7 Project Mgt_ 5
   100

WBS LEVEL 3:

1. Bicycle
   1.1 Frame Set
      1.1.1 Frame_ 7
      1.1.2 Handlebar_ 2
      1.1.3 Fork_ 3
      1.1.4 Seat_ 3
   1.2 Crank Set_ 5
   1.3 Wheels
      1.3.1 Front Wheel_ 13
      1.3.2 Rear Wheel_ 17
   1.4 Braking System_ 5
   1.5 Shifting System_ 5
   1.6 Integration
      1.6.1 Concept_ 3
      1.6.2 Design_ 5
      1.6.3 Assembly_ 10
      1.6.4 Testing_ 17
   1.7 Project Mgt_ 5
   100

Helps In accurate estimation of
Time,
Cost
Resources
Development of a predictable plan
Assignment & Responsibilities
Effective Monitoring and Control
Reducing project risk
Increase Quality

Design principles

An important design principle for work breakdown structures is called the 100% rule

The 100% rule states that the WBS includes 100% of the work defined by the project scope and captures all deliverables – internal, external, interim – in terms of the work to be completed, including project management. The 100% rule is one of the most important principles guiding the development, decomposition and evaluation of the WBS

It is important to remember that the 100% rule also applies to the activity level. The work represented by the activities in each work package must add up to 100% of the work necessary to complete the work package

WBS is decomposed to the work package level

Dividing until you can track project performance

Progressive elaboration allows to refine progressively

No longer able to define planned outcomes

Only detail remains are actions

40 hour rule (40 hours week) rather than 4 levels

4% of the total project

No more than 60 WPs

Must be manageable

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