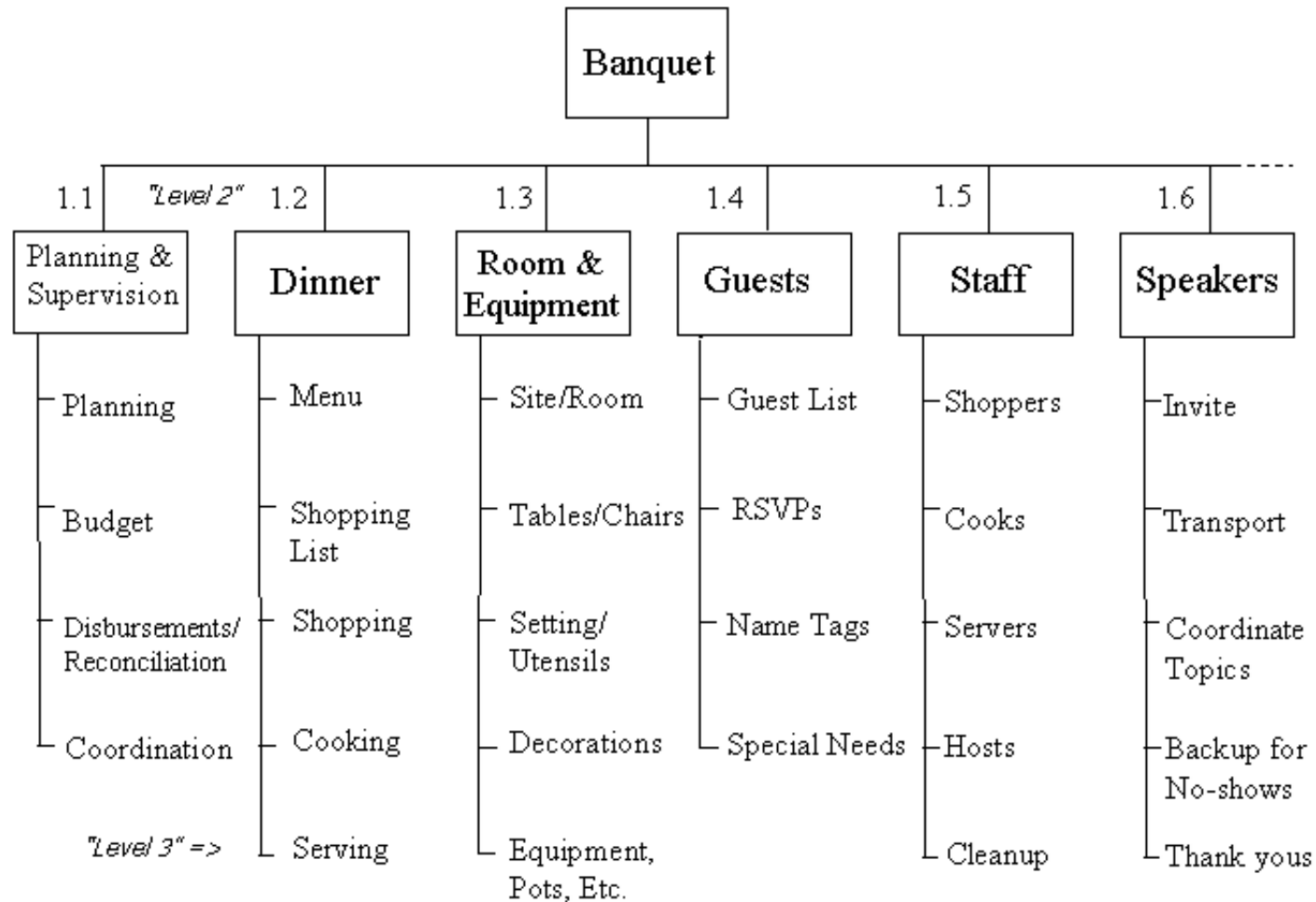# WBS
Work Breakdown Structure

DUM 03

Work breakdown structure

- WBS is techique used in project managenet and software engineering for dividing delivery (or project goals) into individual products.

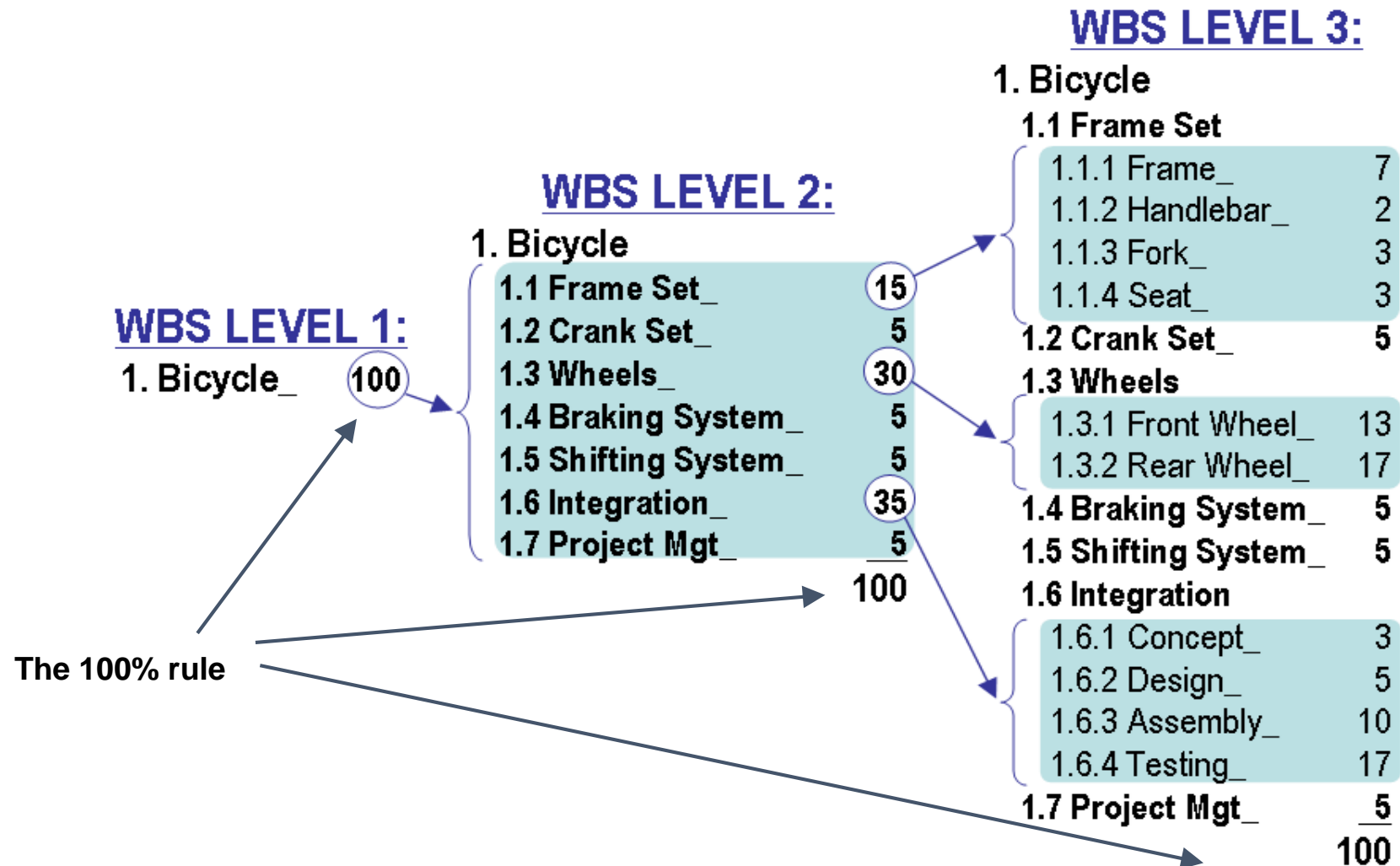- It helps to estimate costs and to check upon progress of project delivery

Decomposition through WBS

- Level of decomposition is not formally defined. Depth of decomposition may also differ at various parts of WBS

- Aim of decomposition is to define elements small enough so it is possible to label them with meaningful value. This labeling has to be done according to the purpose of WBS

- Valuation of WBS elements is done in perspective of time, financial costs and/or other resources needed for project delivery

WBS example (1)

WBS example (2)

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

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 1:

1. Bicycle_ 100

The 100% rule

The 100% rule

- Basic principle of creating WBS. This rules states that WBS has to always contain 100% of defined goal and cover all deliveries - internal, external and even temporal - from the perspective of work to be done (<u>work</u> breakdown structure)

- This rule applies to every level of hierarchy. Sum of bottom layer elements must be 100% of root element of WBS tree. It also means that it must not contain anything more - it must not make more than 100%.

The rule of mutual exclusivity

- In WBS, no overlap is allowed between two elements in different branches of WBS tree

- Such ambiguosity would lead into duplicite work or into errors originating in overlapping of responsibilities during project delivery

- Overlapping might also lead into errors while estimating cost

Common mistakes

- WBS is not an exhausting listing of every activity but a complex description of project delivery

- WBS is not a project plan, nor project time-table, neither chronological printout. WBS describes what will be done - it does not tell how or when

- WBS is not an organisational hierarchy although it might be used for assigning responsibility