

Faculty of Computer Science and Information Technology
University of Malaya
Semester 1, 2016/2017 Academic Session

WIX2002: Project Management

Tutorial 2 - Answers

1. What are the six elements of a typical scope statement?

- Project objective
- Deliverables
- Milestones
- Technical requirements
- Limits and exclusions
- Review with customers

2. What does it mean if the priorities of a project include: Time-constraint, Scope accept and Cost enhance.

The project must be completed on a specific date, the scope can be scaled back in order to meet cost and time objectives, and when possible, seek opportunities to reduce cost.

3. What kinds of information are included in a work package?

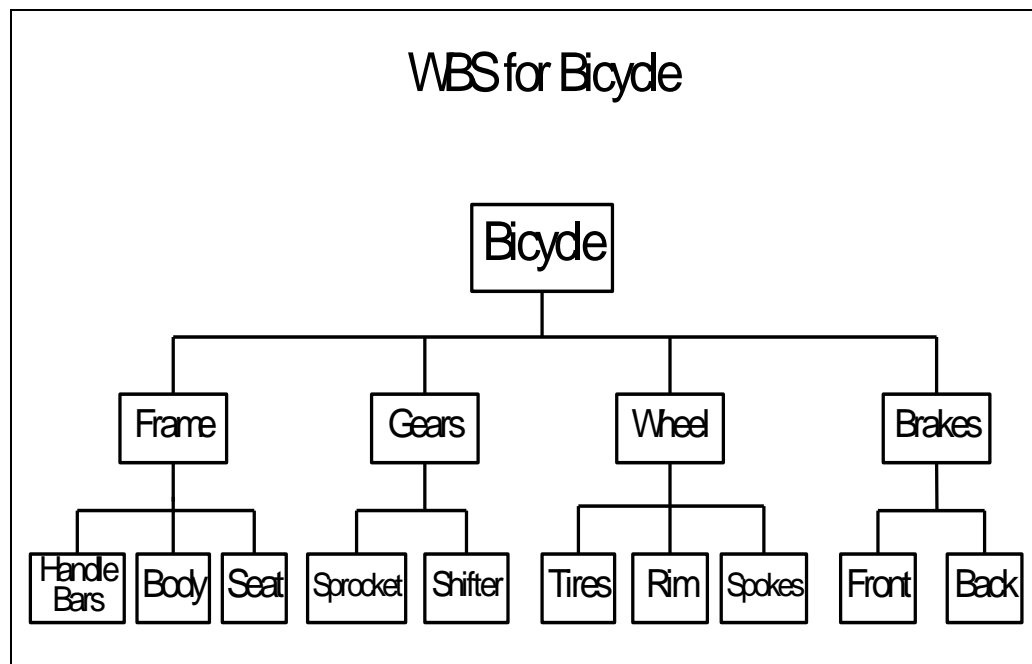
- a. Work to accomplish a segment of the project
- b. Time to accomplish the work package
- c. Time-phased budget for the work package and total cost to complete the work package
- d. Resources need to complete the work package
- e. Single person responsible for accomplishment of the work package.
- f. Monitoring points for measuring progress during the implementation of the work package
- g. Any specification critical to the work package.

4. What questions does a project objective answer? What would be an example of a good project objective?

The project objectives answers what, when, and how much.

Example of a good project objective: To replace the XYZ bridge by 3 August 2017, at a cost not to exceed RM1.5 million.

5. Develop a WBS for a project in which you are going to build a bicycle. Try to identify all of the major components, and provide three levels of detail.



6. You are the father or mother of a family of two children (one son and one daughter aged 24 and 22, respectively), and are planning a weekend camping trip. Develop a responsibility matrix for the work that needs to be done prior to starting your trip. (Note: The list of tasks is: Research sites, Decide on site, Reserve site, Shopping list, Purchase supplies, Pack camping equipment, Pack fishing gear, Fill car with gas, and Get cash.)

Task	Father	Mother	Son	Daughter
Research sites		R	S	S
Decide on site	S	R	S	S
Reserve site	R			
Shopping list	S	R	S	S
Purchase supplies	R			S
Pack camping equipment	S		R	
Pack fishing gear		S		R
Fill car with gas	R			
Get cash		R		

7. What are the differences between bottom-up and top-down cost estimating approaches? Under what conditions would you prefer bottom-up estimates?

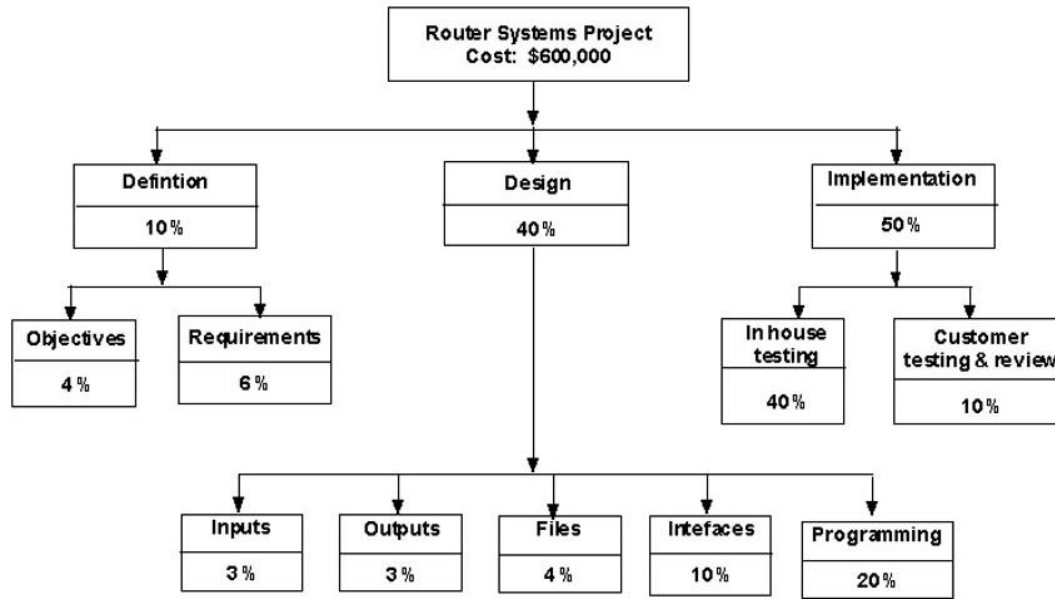
Top down estimates are typically used in the project conceptual phase, and depend on surrogate measures such as weight, square feet, and ratios. Top down methods do not consider individual activity issues and problems. Top down estimates are good for rough estimates and can help select and prioritise projects.

Bottom-up time and cost estimates are usually tied directly to the WBS and a work package. These estimates are made by people familiar with the task, which help to gain buy-in on the validity of the estimate. Use of several people should improve the accuracy of the estimate. Bottom-up estimates should be preferred if time to estimate is available, estimating cost is reasonable, and accuracy is important.

8. Below is a project WBS with cost apportioned by percents. The total project cost is estimated to be \$600,000.

i) What are the estimated costs for the following deliverables?

Reuter Systems Project Cost: \$600,000	Definition (10%)	Objectives (4%)
		Requirements (6%)
	Design (40%)	Inputs (3%)
		Outputs (3%)
		Files (4%)
		Interfaces (10%)
		Programming (20%)
	Implementation (50%)	In house Testing (40%)
		Customer Testing & Review (10%)



- a. Design? \$240,000
- b. Programming? \$120,000
- c. In-house testing? \$240,000

ii) What weaknesses are inherent in this estimating approach?

- a. Requires good, realistic historical data.
- b. If total cost estimate is off, all other costs will be off.
- c. Project must be very similar to past projects for sub-deliverables to be useful.

9. Using the “complexity Weighting” scheme and the function point complexity weighted table shown in Table 1 below, estimate the total function point count. Assume historical data suggest 5 function points equal one person month and six people can work on the project.

Table 1: Function Point Complexity Weighted Table

			Low	Average	High
Number of inputs	10	Rated complexity low	2	3	4
Number of outputs	20	Rated complexity average	3	6	9
Number of inquires	10	Rated complexity average	2	4	6
Number of files	30	Rated complexity high	5	8	12
Number of interfaces	50	Rated complexity high	5	10	15

- a. The total function point count is:

Element	Count	Complexity			Total
		Low	Average	High	
Inputs	10	10 x 2			= 20
Outputs	20		20 x 6		= 120
Inquiries	10		10 x 4		= 40
Files	30			30 x 12	= 360
Interfaces	50			50 x 15	= 750
TOTAL					= 1290

What is the estimated project duration?

1290/5 function points = 258 person months. Assuming six people available, the project duration will be approximately 43 months ($258/6 = 43$).

- b. If 20 people are available for the project, what is the estimated project duration?

The project duration will be approximately 12.9 months if 20 people are available ($258/20 = 12.9$).

- c. If the project must be completed in 6 months, how many people will be needed for the project?

43 people will be needed to complete the project in 6 months ($258/6 = 43$).