Métodos de Desenvolvimento de Software / Software Development Methods

2014/2015

Exercises –Lab Session 3 – Earned Value Management

Exercise 3.1

Consider you have the following project plan, where we present the task ID, its description, the immediate predecessors, the task duration, in days, the budget, in euros, the current status, the Actual Start (days), the Actual Duration (days), and the Actual costs (euros):

ID	Task	Preds	Dur	Budget	Status	ActStart	ActDur	ActCosts
A	Meet with client		5	500	100%			1500
B	Write software	A	20	10000	100%	+5 days	+10 days	9000
C	Debug software	B	5	1500	100%	As per other delays	+5 days	2500
D	Prepare draft manual	B	5	1000	100%	As per other delays		1000
E	Meet with clients	D	5	1000	100%	As per other delays		1000
F	Test software	C, E	20	2000	75%	As per other delays		1000
G	Make modifications	F	10	8000	0%	As per other delays		0
H	Finalize manual	G	10	5000	0%	As per other delays		0
I	Advertise	C, E	20	8000	10%	As per other delays		1000

Assumptions:

- all direct dependencies are of type *Finish to Start*, and that each week has 5 working days
- each task is payed in two phases: 50% when it starts, and 50% upon completion

Please perform a project status analysis at week 13, using EVA. Use *CPI* and *SPI* to determine project efficiency.

Suggestion:

- Create an *AON* diagram for this project plan
- Create a *Gantt* chart from the *AON* diagram (i.e. of the plan)
- Create a *Gantt* chart of the actual plan (i.e. progress status)
- Perform the analysis by plotting *PV*, *AC*, *EV*, *CPI* and *SPI*

Exercise 3.2

You have a project that is scheduled to be completed in 10 days at a budgeted cost of €100,000. At the end of day 6 you do an analysis and you determine the job is 70% complete and you have spent €65,000. Perform an Earned Value Analysis assuming:

- The plan has a purely linear distribution rate of *daily planned value* and *daily planned percentage complete*.

Exercise 3.3

Consider the following project activities, their precedence and duration:

Activity	Predecessor	Duration (days)
A		2
B	A	2
C	A	4
D	B, C	2
E	D	4
F	C	4
G	F	3
H	E, G	1

After 8 days of work, activity A has been completed on time. Three out of the 4 (similarly sized) deliverables of activity C have been completed. No other activities have started, yet. Assuming that each day's work costs €100, please compute the *CV*, *SV* the *CPI* and *SPI* for this project.