Indian Institute of Information Technology, Vadodara

Meetup

COST ESTIMATION

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We are using cocomo model for estimating the total efforts required for the project. COCOMO model works primarily according to size of the project along with other parameters. So we need to get an approximate idea about how many KLOC our project will be of. This can be done by using analysis of similar projects done in the past. So the estimated KLOC for our project is = 5, which is 5000 lines of code.

Now, as our team is small and consists of experienced members, so this will be a organic model.

According to COCOMO model -

Effort $= a(\text{KLOC})^b$ $(Unit : person - month)$

Tdev $= c(Effort)^d$ $(Unit : month)$

a = 3.2, b = 1.05, c = 2.5, d = 0.38, Expected KLOC = 5

   Estimation of Project Size and Time duration using intermediate Organic model:

Cost Driver	Level	Value
Required Software Reliability	High	1.15
Size of Application Database	Nominal	1
Complexity of The Product	Nominal	1
Runtime Performance Constraints	High	1.11
Memory Constraints	Nominal	1
Volatility of the virtual machine environment	Nominal	1
Required turnabout time	High	1.07
Analyst capability	High	0.86
Applications experience	Nominal	1
Software engineer capability	Nominal	1
Virtual machine experience	Nominal	1
Programming language experience	High	0.95
Application of software engineering methods	High	0.91
Use of software tools	High	0.91
Required development schedule	High	1.04

Effort = E(f) x EAF

Effort = 3.2 x $(5^{1.05})$ × 1.15 × 1 × 1 × 1.11 × 1 × 1 × 1.07 × 0.86 × 1 × 1 × 1 × 0.95 × 0.91 × 0.91 × 1.04

$Effort = 16.6652280 PM$

$Tdev = 2.5 \times (Effort)^{0.38}$

$Tdev = 7.28 Month$

So, by calculating the values using COCOMO model, we can conclude that with the given skill set and technology used So, with a team of 5 members, it would take about 16.66/5 i.e. 3 months approximately.