

Experiment 7

Aim: To construct a COCOMO model for cost estimation for the chosen problem statement.

Problem Statement: Online Test Management System.

Object count and classifying complexity level:

Number of Screens	1. Authentication Screen 2. Dashboard screen 3. Add Test 4. Add Question 5. Take Test 6. View result	Simple Medium Difficult Difficult Medium Medium
Number of reports	1. Result report	Medium
Number of 3GL components	1. JavaScript	Difficult

Complexity Weights and Object Point:

Object Type	Complexity Weights			Given Values			Total
	Simple	Medium	Difficult	Simple	Medium	Difficult	
Screens	1	2	3	1	3	2	13
Reports	2	5	8	0	1	0	5
3GL components	-	-	10	0	0	1	10
Object Point							28

Object Point = 28

New Object Point (NOP):

Reusability = 10% (assumed)

$$\begin{aligned}\text{NOP} &= \text{Object Point} * [(100 - \text{reuse})/100] \\ &= 28 * 90 / 100 \\ &= 25.2\end{aligned}$$

New Object Point = 25.2

Productivity Rate (PROD):

Developer experience – low

Environment Maturity – low

$$\begin{aligned}\text{PROD} &= (\text{low} + \text{low})/2 \\ &= (7 + 7)/2 \\ &= 7\end{aligned}$$

Productivity Rate = 7

Efforts:

$$\begin{aligned}\text{Efforts} &= \text{NOP} / \text{PROD} \\ &= 25.2 / 7 \\ &= 3.6 \text{ person months}\end{aligned}$$

Efforts for project development is 3.6 person months.

Size Estimation:

Total FP = 302.76

3GL components 1FP = 30 LOC

$$\begin{aligned}\text{Estimated size} &= 302.76 * 30 \\ &= 9082.8 \text{ LOC} \\ &= 9.082 \text{ KLOC}\end{aligned}$$

Estimated project size is 9.082 KLOC.