

Experiment no:- 10

Aim:- To construct COCOMO model for cost estimation

P.S :- Daily Expense Tracker System

Object count & classifying complexity level is covered below theory

- Theory:-
- i) COCOMO stands for constructive cost model
 - ii) COCOMO II is hierarchy of three estimation models
 - iii) It addresses the following :-
 - a) Application composition model - Used during the early stage of software development
 - b) Early design stage model.
 - c) Post architecture model.

Object count & classifying complexity level :-

No. of screens	1. Auth screen	Simple
	2. My Profile	Medium
	3. Dashboard	Medium
	4. Add Expense	Difficult
	5. Manage Screen Expense	Medium
	6. Change Password	Simple
	7. Logout	Simple
	8. Category wise Rep	Difficult
No. of reports	1. Date wise Report	Medium
	2. Month wise Report	Medium
	3. Year wise Report	Medium
No. of SQL	1. PHP	Difficult
	2. My SQL	Difficult

Complexity weights & object point :-

Obj Type	Complexity weights			given value			Total
	Simple	Medium	Difficult	Simple	Med	Diff	
Screens	1	2	3	3	3	2	15
Reports	2	5	8	0	3	0	15
3GL	-	-	10	0	0	2	20
Object point							50

New Object Point (NOP)

Reusability = 10%

$$NOP = \text{Object Point} \times \left[\frac{(100 - \text{reuse})}{100} \right]$$

$$= 50 \times \frac{90}{100}$$

$$\text{New Object pt.} = 45$$

⇒ Productivity Rate (PROP)

Developer experience - Nominal = 13

Environment Maturity - Nominal = 13

$$PROP = (13 + 13) / 2 = 13$$

$$\therefore \text{Productivity Rate} = 13$$

$$\text{EFFORTS} = NOP / PROP = 45 / 13 = 3.46$$

i.e. around 3.5 person months

Size estimation :-

Size estimation will depend on Total FP & 3GL components

$$\therefore \text{Total FP} = 452.1$$

3GL components · 1FP = 67 for PHP

1FP = 21 for SQL

DATE

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$$\begin{aligned}\text{Estimated size} &= 452.1 \times 67 + 452.1 \times 21 \\ &= 39,784.8 \text{ LOC} \\ &= 39.784 \text{ KLOC}\end{aligned}$$

\therefore Estimated project size = 39.784 KLOC

Conclusion:- This estimation for the project was done using COCOMO model.