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Practical No. 14

Aim: Perform Estimation of effort using FP Estimation

Scenario: Calculate the function point, productivity, documentation, and cost per function for software application with multiple Processing Factors 5, 1, 0, 4, 3, 5, 4, 3, 4, 5, 2, 3, 4, 2 by using following given Data: The number of EI(Avg): 22,The number of EO(Low): 45,The number of EI(High): 06, The number of ILF(Avg): 05, The number of EIF(Low): 02, Effort:37 MM, Software technical documents: 250 pages, User related documents: 120 pages and Budgeting/Cost: $7520 per month.

Solution: - Functional Point Analysis Parameters & Weight Factor Table

Measurement Parameter	Count		Weighing factor			
			Simple	Average	Complex	
1. Number of external inputs (EI)	—	*	3	4	6 =	—
2. Number of external Output (EO)	—	*	4	5	7 =	—
3. Number of external Inquiries (EQ)	—	*	3	4	6 =	—
4. Number of internal Files (ILF)	—	*	7	10	15 =	—
5. Number of external interfaces(EIF)	—	*	5	7	10 =	—
Count-total →						

The Function Point (FP) is calculated with the formula:

FP = Count-total * [0.65 + 0.01 * ∑(f_i)]
= Count-total * CAF

where Count-total is obtained from the above Table.

CAF = [0.65 + 0.01 *∑(f_i)]

and ∑(f_i) is the sum of all 14 questionnaires and show the complexity adjustment value/ factor-CAF (where i ranges from 1 to 14).

Measurement Factor	Count		Weighing Factor		
Number of External Inputs(EI)	22	*	4	=	88
Number of External Outputs(EO)	45	*	4	=	180
Number of External Inquiries(EQ)	06	*	6	=	36
Number of Internal Files(ILF)	05	*	10	=	50
Number of External Interfaces(EIF)	02	*	5	=	10
Total Count					364

So sum of all f_i ($i \leftarrow 1$ to 14) = 5 + 1 + 0 + 4 + 3 + 5 + 4 + 3 + 4 + 5 + 2 + 3 + 4 +2 = 45

FP = Count-total * [0.65 + 0.01 *$\sum(f_i)$]

= 364 * [0.65 + 0.01 * 45]

= 364 * [0.65 + 0.45]

= 364 * 1.1 = **400.4**

Productivity = FP / Efforts

Productivity = 400.4 / 37 = 10.82162 = **10.82**

Total pages of documentation = technical document + user document
= 250 + 120 = **370 pages**

Documentation = Pages of documentation/FP
= 370/400.4 = 0.92407 = **0.92**

Cost Per Function = cost /productivity

= $7520 / 10.82

= $ 695.0092 = **$695**