

Experiment no : 3

Date :- 23-11-2021

Aim :- To calculate effort using FP for library management system.

Function point Analysis:

FP is the most popular used software estimation technique. It is used to measure the functional size of the software work. To overcome the limitations of LOC-based measurement FP is used.

FP estimations are based on five informational domains follows.

- 1) Number of inputs
- 2) Number of outputs
- 3) Number of inquiries
- 4) Number of internal logical files
- 5) Number of external interfaces.

The values of domains are categorised as simple, Average, complex.

Information domain	Weights		
	Simple	Average	Complex
Number of inputs	3	4	5
Number of outputs	3	5	6
Number of inquiries	3	4	5
Number of internal logical files	6	8	9
Number of external interfaces	4	6	11

The steps performed in FP estimation

- (1) calculate the unadjusted function point (UFP)
- (2) Compute the complexity adjustment attributes (CAA)
- (3) calculate FP by using $FP = UFP \times CAA$

$$CAA = [0.65 + 0.01 \times \sum CAAI]$$

$$FP = UFP \times CAA$$

Assume the information domain values as follows:

- number of inputs = 12
- Number of outputs = 5
- Number of inquiries = 3
- Number of external files = 3
- Number of interfaces = 2

Total value of complexity adjustment, $CAA = 12$

The value of each factor rated on five-point scale, 0 (non significant), 1 (incidental), 2 (moderate), 3 (average), 4 (significant), 5 (highly essential).

Consider, LMS is an average complexity project

$$\begin{aligned} 1) \text{ UFP} &= (\text{number of input}) \times 4 + (\text{NO of outputs}) \times 5 + \\ & (\text{no of inquiries}) \times 4 + (\text{no of internal files}) \times 8 + \\ & (\text{no of external interfaces}) \times 6 \end{aligned}$$

$$\begin{aligned} \Rightarrow & (12) \times 4 + 5 \times 5 + 3 \times 4 + 3 \times 8 + 2 \times 6 \\ & = 48 + 25 + 12 + 24 + 12 = 121 = \text{UFP} \end{aligned}$$

$$\begin{aligned} 2) \text{ Compute CAA, which has value} &= 12 = 0.65 + 0.01 \times (12 \times 3) \\ &= 1.01 \end{aligned}$$

$$3) \text{ compute } FP = UFP \times CAA = 121 \times 1.01 = 122.21$$

\therefore Total value of FP is 122.21