

StudyBuddy - Function Point Analysis

Functionality	Input	Output	Queries	File	Program Interface
Login	1	1	0	1	1
Setting Preferences	1	1	1	1	0
Matching	1	2	1	1	1
Chat feature	1	1	1	0	0
Pomodoro timer feature	1	1	1	0	0

	Complexity				
Description	Total#	Simple	Average	Complex	Total
Inputs	5	2 *3	1 *4	2 *6	22
Outputs	6	2 *4	2 *5	2 *7	32
Queries	4	1 *7	2 *10	1 *15	42
File	3	2 *7	1 *10	0 *15	24
Program Interface	2	0 *5	1 *7	1 *10	17
Total Unadjusted Function Point (TUFp)					137

The total processing complexity (PC):-

Complexity Weighting Factor	Value
Data Communications	3
Heavy use configuration	0
Transaction rate	2
End-user efficiency	3

Complex processing	1
Installation ease	1
Multiple sites	1
Performance	2
Distributed functions	1
Online data entry	3
Reusability	1
Operational ease	3
Extensibility	3
Total Processing Complexity (PC):	24

The adjusted processing complexity (APC):-

$$APC = 0.65 + (0.01 * TPC)$$

$$APC = 0.65 + (0.01 * 24) = 0.89$$

The total adjusted function points (TAFP):-

$$TAFP = TUPF * APC$$

$$TAFP = 137 * 0.89 = 121.93$$

Converting Function Points to Line Of Code (LOC):-

Language/ Tool	Number of LOC / FP
HTML/CSS	20
JavaScript	40

- 25% will be done in HTML/CSS
- 75% will be done in JavaScript

Number of lines of code (LOC) = TAFP * # of (LOC\FP) * %

$$\text{For HTML/CSS} = (121.93) * (20) * (25/100) = 609.65 \text{ LOC}$$

$$\text{For JavaScript} = (121.93) * (40) * (75/100) = 3657.9 \text{ LOC}$$

So the total LOC= 4267 LOC (rounded)

Estimating the effort:-

$$\begin{aligned}\text{Effort} &= 2.4 * (\text{LOC}/1000)^{1.05} \\ &= 2.4 * (4267/1000)^{1.05} \\ &= 11.1 \text{ person months}\end{aligned}$$

Estimating the schedule time:-

$$\begin{aligned}\text{Time} &= 2.5 * (E)^{0.38} \\ &= 2.5 * (11.1)^{0.38} \\ &= 6.239 \text{ months}\end{aligned}$$

Estimating the number of persons:-

$$\begin{aligned}\text{Average of \# of persons} &= \text{effort/time} \\ &= 11.1 / 6.239 \\ &= 1.779 \text{ persons}\end{aligned}$$