

System Size
Function Point Estimation

Functionality	Input	Output	Queries	File	Program Interface
registration	1	0	1	1	0
Log in	1	0	2	1	0
Search (+filter)	1	1	1	1	0
View results	0	4	0	0	0
View availability	0	2	1	1	0
Make appointment	0	0	2	2	0
View history	0	1	1	1	0
payment	1	1	1	1	1
notification	0	2	1	1	0
Make schedule	0	1	1	1	0
message	1	1	1	1	1
View medical history	0	1	1	1	0
Give prescription	1	1	1	1	0
Recommendation (suitable doctors)	1	1	1	0	0

	Complexity				
Description	Total #	Low	Medium	High	Total
Inputs	7	3 * 3	2 * 4	2 * 6	29
Outputs	16	12 * 4	4 * 5	0 * 7	68
Queries	15	12 * 7	2 * 10	0 * 15	104
Files	13	9 * 7	4 * 10	0 * 15	103
Program Interface	2	0 * 5	2 * 7	0 * 10	14
Total Unadjusted Function Point (TUFPP) =	318				

The total processing complexity (PC):

Tasks	Complexity
Data communications	3
Heavily used configuration	3
Transaction rate	4
End-user efficiency	4
Complex processing	1
Installation ease	2
Multiple sites	3
Performance	2
Distributed data processing	3
Online data entry	4
Online Updating	2
Reusability	3

Operational ease	2
Extensibility (Facilitate change)	2
Total Processing Complexity (TPC)=	38

- **The adjusted processing complexity (APC):**

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

$$APC = 0.65 + (0.01 * 38) = 1.03$$

- **The total adjusted function points (TAFP):**

$$TAFP = TUPF * APC$$

$$TAFP = 318 * 1.03 = 327.54$$

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

Language/Tool	Number of LOC/FP
Python	53
C++	53
Java	53

- 60% will be done in Python
- 20% will be done in C++
- 20% will be done in Java

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

$$\text{For Python} = (327.54) * (53) * (60/100) = 10415.77 \text{ LOC}$$

$$\text{For C++} = (327.54) * (53) * (20/100) = 3471.92 \text{ LOC}$$

$$\text{For Java} = (327.54) * (53) * (20/100) = 3471.92 \text{ LOC}$$

$$\text{So the total LOC} = 17359.62 \text{ LOC}$$

- **Estimating the effort:**

$$\text{Effort} = 2.4 * \text{LOC} / 1000$$

$$= 2.4 * 17359.62 / 1000$$

$$= 41.66 \text{ person month}$$

- **Estimating the schedule time:**

$$\text{Time} = 2.5 * (\text{effort})^{0.38}$$

$$= 2.5 * (41.66)^{0.38}$$

=10.31 months

- **Estimating the number of persons:**

average of # of persons = effort/time

= 41.66 / 10.31

= 4.04 persons