

System Size

Function Point Estimation

Notes:

Internal files/databases: persons (patients+staff) database, diagnosis-diet database

External interface: existing/simulated hospital profile

Functionality	Input	Output	Queries	Internal Files	External interface
Registration	1	0	1	2	1
Upload diagnosis	1	0	1	1	1
View diagnosis	1	1	1	1	0
Diet generation and recommendation	1	1	1	2	0
Progress tracking	1	1	1	1	0
Doctor diet revision	1	1	0	1	1
Direct chat	1	1	1	1	0

	Complexity				
Description	Total#	Low	Medium	High	Total
Inputs	7	5*3	2*4	0*6	23
Outputs	5	3*4	2*10	0*7	32
Queries	6	4*7	1*10	1*15	53
Files	9	6*7	3*10	0	72
Interface	3	3*5	0*7	0	15
Total Unadjusted Function Point (TUFP) =					195

Total Processing Complexity (PC):

Complexity Weighting Factor	Value(0-5)
Data communications	1
Transaction rate	3
End-user efficiency	2
Online data entry	3
Reusability	3
Operational ease	1
Total Processing complexity	13

Total adjusted function points (TAFP):

$$\text{TAFP} = (0.65 + (0.01 * \text{PC})) * \text{TUFP}$$

$$\text{TAFP} = (0.65 + (0.01 * 13)) * 195 = 152.1$$

Language/Tool	Median Number of LOC/FP
HTML	42
JavaScript	55
C++	53

Tentatively:

- 60% will be done in C++
- 20% will be done in HTML
- 20% will be done in JavaScript

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

C++: $152.1 * 0.6 * 53 = 4836.78$ LOC
JavaScript: $152.1 * 0.2 * 55 = 1672.1$ LOC
HTML: $152.1 * 0.2 * 42 = 1277.64$ LOC
Total = 7786.52

Given that Dietaide is an Application Program:

Estimated effort:

Effort = $2.4 * (7786.52 / 1000)^{1.05} = 20.71$ person month

Estimating the schedule time:

Time = $2.5 * (\text{effort})^{0.38} = 2.5 * (20.71)^{0.38} = 7.91$ months