Function Point Analysis

Functionality List

Functionality	Information Domain	Weighting Factor
User search query to the system	EI	Simple
JSON output to user	EO	Complex
Google search inquiry for company name	EQ	Average
Yahoo finance inquiry for ticker name	EQ	Simple
Google search inquiry for articles	EQ	Complex
Yahoo finance inquiry for past stock data	EQ	Complex
Cache System for company data	ILF	Complex

Function Point Calculation

Information Domains	Count	Weighting Factor			Total
		Simple	Average	Complex	
EIs	1	1*3	0*4	0*6	3
EOs	1	0*4	0*5	1*7	7
EQs	4	1*3	1*4	2*6	19
ILFs	1	0*7	0*10	1*15	15
EIFs	0	0*5	0*7	0*10	0
Total Unadjusted Function Points (TUFP)					44

Processing Complexity Calculation

Complexity Weighting Factor	Brief Description	Value (0—5)
Data communications	How many communication facilities are there to aid in the transfer or exchange of information with the application or system?	4
Heavily used configuration	How heavily used is the current hardware platform where the application will be executed?	0
Transaction rate	How frequently are transactions executed daily, weekly, monthly, etc.?	4
End-user efficiency	Was the application designed for end-user efficiency?	4
Complex processing	Does the application have extensive logical or mathematical processing?	5
Installation ease	How difficult is conversion and installation?	1
Multiple sites	Was the application specifically designed, developed, and supported to be installed at multiple sites for multiple organizations?	1
Performance	Was response time or throughput required by the user?	4
Distributed data processing	How are distributed data and processing functions handled?	3
Online data entry	What percentage of the information is entered online?	0
Online Updating	How many ILF’s are updated by On-Line transaction?	0
Reusability	Was the application developed to meet one or	4

	many user's needs?	
Operational ease	How effective and/or automated are start-up, back-up, and recovery procedures?	1
Extensibility	(Facilitate change) Was the application specifically designed, developed, and supported to facilitate change?	4
Total Processing Complexity (TPC)		35

Adjusted Processing Complexity (APC)

APC=0.65 + (0.01 * TPC)
APC=0.65 + (0.01 * 35)= 1.00

Total Adjusted Function Points (TAFP)

TAFP=TUFP * APC
TAFP= 44*1.00= 44

Converting Function Points to Line Of Code (LOC)

Language	Number of LOC/PC
TypeScript	71.11
Python	53.33
HTML	15

- 30% will be done in Python
- 10% will be done in HTML
- 60% will be done in TypeScript

Number of lines of code (LOC) = TAFP * #of(LOC\FP) * %
For Python = (44) *(53.33)*(30/100) = 703.96 LOC
For HTML = (44) *(15)*(10/100) = 66 LOC
For TypeScript = (44) *(71.11)*(60/100) = 1877.304 LOC
Total LOC=2647.264 LOC

Estimating the effort:

Project	a	b
Application Programs	**2.4**	**1.05**
Utility Programs	3.0	1.12
System Programs	3.6	1.20

Effort = a * (LOC/1000) ^ b
=2.4*(2647.264/1000)^1.05
=6.67 person month

Estimating the schedule time:

Project	c	d
Application Programs	**2.5**	**1.05**
Utility Programs	2.5	0.35
System Programs	2.5	0.32

Time = c * (effort)^d
=2.5* (6.67)^0.38
=5.14 months

Estimating the number of persons:

average of # of persons = effort/time
= 6.67 / 5.14
= 1.29 persons