Function Point Metric:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Measurement parameter** | | | Count |  | simple | average | complex | Choice |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| # of user inputs | |  | 21 | X | 3 | 4 | 6 | 3 | = | 63 |
| # of user outputs | |  | 18 | X | 4 | 5 | 7 | 4 | = | 72 |
| # of user inquiries | |  | 5 | X | 3 | 4 | 6 | 3 | = | 15 |
| # of files |  |  | 4 | X | 7 | 10 | 15 | 7 | = | 28 |
| # of external interfaces | | | 1 | X | 5 | 7 | 10 | 10 | = | 10 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **Count-total (UFP)=** | |  | 188 |
|  |  |  |  |  |  |  |  |  |  |  |
| Rate each factor on a scale of 0 to 5: | | | | 0 - No Influence | | 1 - Incidental | | 2 - Moderate | |  |
|  |  |  |  | 3 - Average | | 4 - Significant | | 5 - Essential | |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 1. Does the system require reliable backup and recovery? | | | | | |  |  |  |  | 3 |
| 2. Are data communications required? | | | |  |  |  |  |  |  | 4 |
| 3. Are there distributed processing functions? | | | | |  |  |  |  |  | 2 |
| 4. Is performance critical? | | |  |  |  |  |  |  |  | 1 |
| 5. Will the system run in an existing, heavily utilized operational environment? | | | | | | | |  |  | 2 |
| 6. Does the system require on-line data entry? | | | | |  |  |  |  |  | 4 |
| 7. Does the on-line data entry require the input transaction to be built over multiple screens or operations? | | | | | | | | | | 2 |
| 8. Are the master files updated on-line? | | | |  |  |  |  |  |  | 4 |
| 9. Are the inputs, outputs, files, or inquiries complex? | | | | |  |  |  |  |  | 1 |
| 10. Is the internal processing complex? | | | |  |  |  |  |  |  | 2 |
| 11. Is the code designed to be reusable? | | | |  |  |  |  |  |  | 2 |
| 12. Are conversion and installation included in the design? | | | | | |  |  |  |  | 1 |
| 13. Is the system designed for multiple installations in different organizations? | | | | | | | |  |  | 0 |
| 14. Is the application designed to facilitate change and ease of use by the user? | | | | | | | |  |  | 4 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | **Total Complexity Adjustment Value =** | | | | 32 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Product Complexity Adjustment (PC) =** | | | | [.65+.01\*CAV] | |  |  |  |  |  |
|  |  |  | = | 1 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Total Adjusted Function Point (FP) =** | | | | UFP \* PC |  |  |  |  |  |  |
|  |  |  | = | 182.36 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Language Factor (LF) =** | | |  | 60 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Source Lines of Code (SLOC) =** | | | | FP \* LF |  |  |  |  |  |  |
|  |  |  | = | 10941.6 |  |  |  |  |  |  |

Total size of the project from function point metric: 10.9KLOC

Estimated Size of each module:

Total Data entry: 2.5 KDSI

Data update: 2.6 KDSI

Query: 0.9KDSI

UI/UX: 4.9KDSI

Total size = 2.5 + 2.6 + 0.9 +4.9 = 10.9 KDSI

Chosen class of product: Organic

Cost Drivers involved:

|  |  |  |
| --- | --- | --- |
| **Cost Driver** | **Selected Type** | **Rating** |
| Storage Constraints | High | 1.08 |
| Experience of Programmer | Normal | 1.00 |
| Software Reliability | Normal | 1.00 |
| Programming Capabilities of programmer | Low | 1.17 |
| Application of software engineering methods | High | 0.91 |
| Use of software tools | High | 0.91 |
| Memory constraints | Normal | 1.00 |

Effort Adjustment factor (EAF): 1.08\*1.00\*1.00\*1.17\*0.91\*0.91\*1.00 =1.046

Constant values for estimation:

a = 2.4

b = 1.05

c = 0.38

Effortcorrected (*Effort*) = Effort \* EAF

= a \* KDSIb \* EAF

= 2.4 \* (10.9)1.05 \* 1.046

= **30.6 person months**

Time of Development (*Tdev*) = 2.5 \* (Effortcorrected)c

= 2.5 \* 30.060.38

= **9.1 months**

Size of development team = Effort / Tdev = 30.6/9.1 =3.30 = **4 (Approx.)**

**Findings from Cost Analysis:**

**Total Effort: 30.6 person months**

**Time of Development: 9.1 months**

**Size of development team: 4**