**CHAPTER 4 PROJECT ESTIMATION:**

**4.1 ESTIMATION TECHNIQUE USED:**

The project size is a measure of the problem complexity in terms of the effort and time required to develop the product. Currently, two metrics are popularly being used to estimate size: Line of code (LOC) and function point (FP).

* 1. **EFFORT RESOURCE, PROJECT DURATION ESTIMATION:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Parameters** | **Count** |  | **Simple** |  | **Total** |
| No. of user Input | 5 | X | 3 | = | 15 |
| No. of user Output | 3 | X | 4 | = | 12 |
| No. of Inquires | 2 | X | 3 | = | 6 |
| No. of Files | 3 | X | 7 | = | 21 |
| external Interface | 1 | X | 5 | = | 5 |

**Complexity Weight Factor:**

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Factors** | **Weights** |
| 1. | Does the system require reliable backup and recovery? | **2** |
| 2. | Are data communication required? | **1** |
| 3. | Are there distributed processing functions? | **0** |
| 4. | Is performance critical? | **0** |
| 5. | Will the system run in an existing, heavily utilized operational environment? | **4** |
| 6. | Does the system require online data entry? | **2** |
| 7. | Does the on-line data entry require the input transactions to be built over multiple screens or operation? | **1** |
| 8. | Are the master file updated on-line | **0** |
| 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? | **3** |
| 12. | Are conversion and installation included in the design? | **1** |
| 13. | Is the system designed for multiple installations in different organizations? | **4** |
| 14. | Is the application designed to facilitate change and ease of use by the user? | **5** |

|  |  |
| --- | --- |
| **Weight** | **Degree Of Influence** |
| 0 | No Influence |
| 1 | Incidental |
| 2 | Moderate |
| 3 | Average |
| 4 | Significant |
| 5 | Essential |

**FP Count:**

FP = count total\*[0.65+0.01 \*∑(Di)]

FP = 59\* [0.65+0.01\*26]

FP = 53.69

**Function Point is: 53.69**

Line of code (LOC) = FP\*30 = 53.69\*30 = 1610.70

KLOC = 1.61070

**Software Project Type**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type** | **ab** | **bb** | **cb** | **db** |
| Organic | 2.4 | 1.05 | 2.5 | 0.38 |
| **Semi-detached** | **3.0** | **1.12** | **2.5** | **0.35** |
| Embedded | 3.6 | 1.20 | 2.5 | 0.32 |

Effort = ab\*(KLOC) ^bb

= 3.0\*(1.61070) ^1.12

= 5.12 PM

Tdev = cb \* (Effort) ^db

= 2.5\*(5.12) ^0.35

= 4.43 Months