LOC estimation:-

Cost & effort estimation using LOC (Decomposition Technique):

Table of significant modules & their LOC distributuion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No. | Name | Optimistic | Most Likely | Pessimistic |
| 1 | Authentication | 200 | 230 | 300 |
| 2 | Route Directions | 100 | 170 | 210 |
| 3 | Map plotting | 500 | 900 | 1200 |
| 4 | Schedule retrieval | 30 | 50 | 90 |
| 5 | Nearby Services | 200 | 260 | 300 |
| 6 | GPS Tracker | 100 | 190 | 250 |
| 7 | Auxilliary code | 200 | 250 | 310 |

Expected value (EV) = ( optimistic + 4\*most likely + pessimistic ) / 6

|  |  |  |
| --- | --- | --- |
| Sr. No. | Name | Expected Value |
| 1 | Authentication | 237 |
| 2 | Route Directions | 165 |
| 3 | Map plotting | 883 |
| 4 | Schedule retrieval | 320 |
| 5 | Nearby Services | 257 |
| 6 | GPS Tracker | 185 |
| 7 | Auxilliary code | 252 |

Estimated LOC = 2299 LOC

Average Productivity = 500 LOC/PM

Estimated effort = Estimated LOC / Average Productivity = 2299 / 500 = 4.598 = 4.6 PM

Cost / LOC = 10 $

Estimated cost = LOC \* (Cost / LOC) = 2299 \* 10 = 22990 $

COCOMO II Model :-

4 simple screens

4 medium screens

2 difficult screens

5 simple components

3 simple reports

High productivity

Reuse percentage = 20%

Object counts :

4 simple screens \* 1 = 4

4 medium screens \* 2 = 8

2 difficult screens \* 3 = 6

5 simple components \* 10 = 50

3 simple reports \* 2 = 6

Therefore, OP = 74

Adjusted NOP = 74 \* (1 – (20/100) ) = 59.2 = 60

Productivity = High = 25 OP/PM

Therefore, estimated effort Person-Month = Adjusted NOP/Productivity = 60 / 25 = 2.4 P-M