ATAL BIHARI VAJPAYEE- INDIAN INSTITUTE OF INFORMATION TECHNOLOGY AND MANAGEMENT GWALIOR

MEDICARE: Software Project Estimation Report

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1.1 Estimations

1.11 Size Estimation (Function Point Metrics)

- Step 1: We find that there are three inputs, two outputs, three files, and one interface. Two files would be required, one for authentication check of the customer details and another for storing messages based on time.

  UFP = 3 × 4 + 2 × 5 + 1 × 4 + 10 × 3 + 1 × 10 = 66

- Step 2: All the parameters are of moderate complexity, except the output parameter of customer registration. The complexity of the output parameter of the customer registration function can be categorized as simple.

- The UFP can be refined as follows:

  UFP = 3 × 4 + 2 × 5 + 1 × 4 + 10 × 2 +1 × 10 = 56

- Step 3: The complexity adjustment factors have average values,

  DI = 14 ×3 = 42 (Our project is an average case so value of scale is 3) TCF = 0.65 + 0.01 * 42 = 1.07
  FP=56(UFP) * 1.07 = 59.92

1.12 Effort and Development Time Estimation (COCOMO Model)

Our Software is a relatively small group project. So we choose the Organic category.

Effort= a1*(KLOC)^a2
Tdev= b1*(Effort)^b2

- KLOC is the estimated kilo lines of source code
- a1,a2,b1,b2 are constants for different categories of software products
- Tdev is the estimated time to develop the software in months
- Effort estimation is obtained in terms of person months (PMs)

So as per our knowledge the no LOC(Line Of code) is approximately 2000

Effort = 2.4 (KLOC)^1.05 PM
= 2.4*(2)^1.05
= 4.97 PM

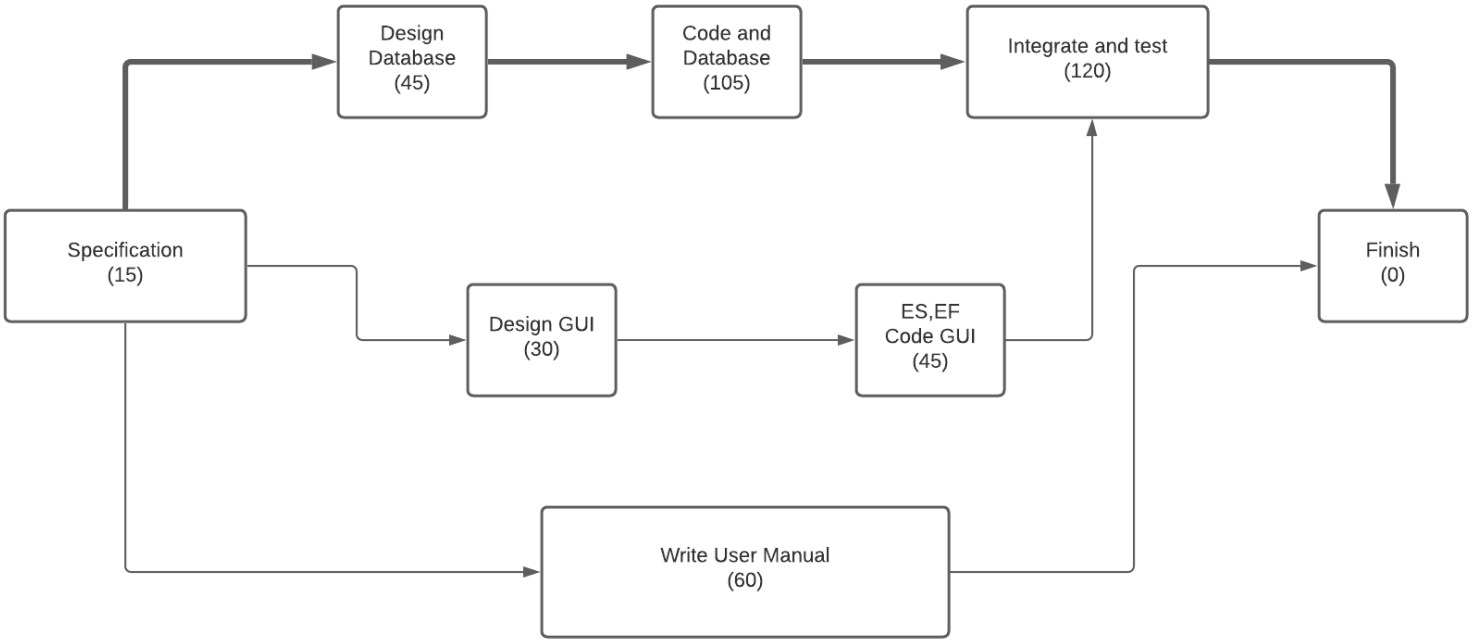
Tdev = 2.5 (Effort)^0.38 Months
= 2.5*(4.97)^0.38
= 4.597 Months

1.2 Project schedule breakdown (Activity network and PERT chart)

The activity network representation is

Task number	Task	Duration	Dependent on task
T1	Specification	15	-
T2	Design Database	45	T1
T3	Design GUI	30	T1
T4	Code Database	105	T2
T5	Code GUI part	45	T3
T6	Integrate and test	120	T4 and T5
T7	Write User Manual	60	T1

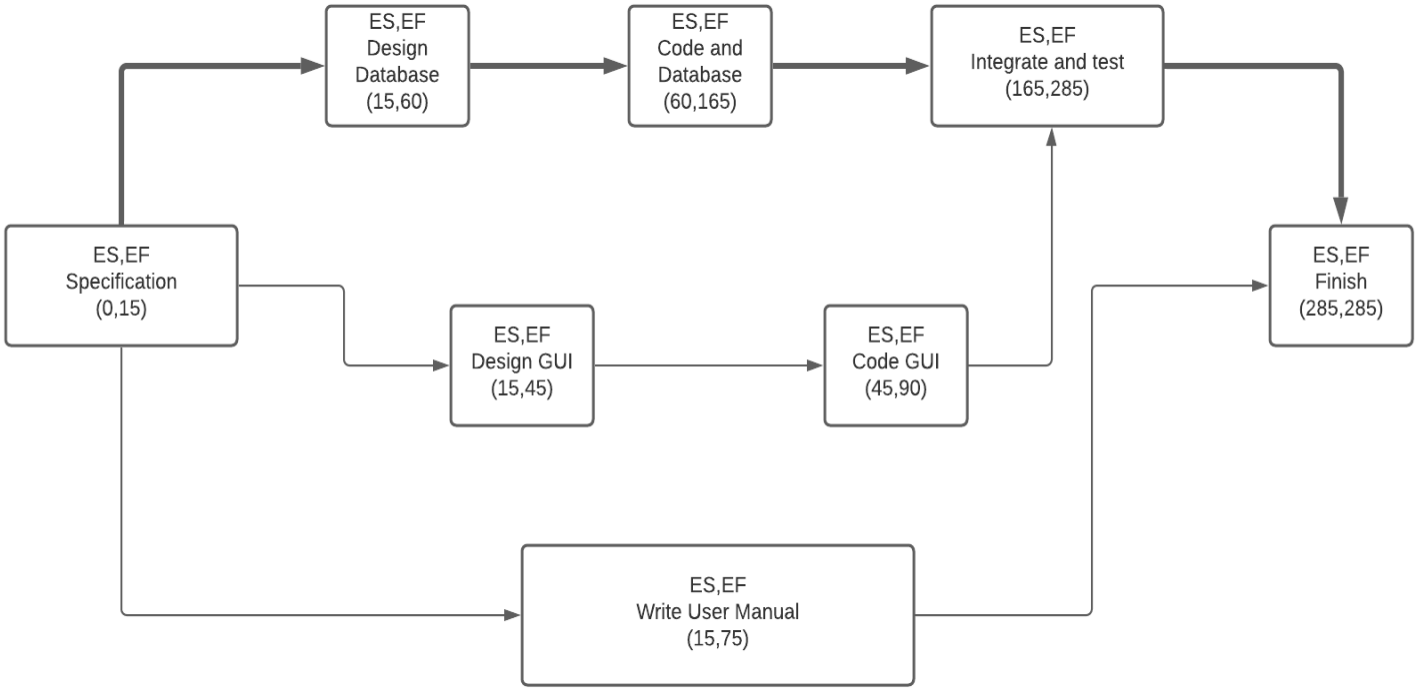
Based on this table the activity network can be shown as:

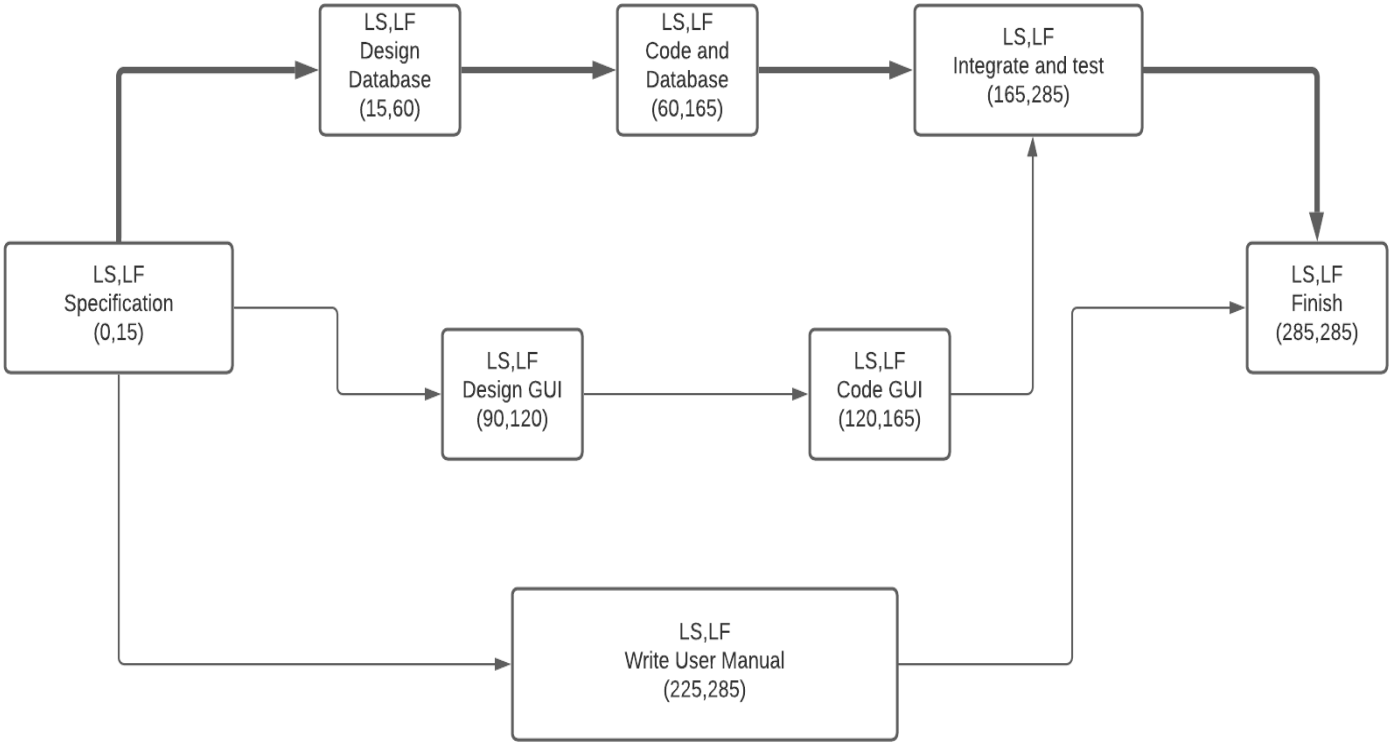


Projected Parameters Computed from Activity Network

Task	EARLY START	EARLY FINISH	LATEST START	LATEST FINISH	SLACK TIME
Specification	0	15	0	15	0
Design database	15	60	15	60	0
Design GUI part	15	45	90	120	75
Code database	60	165	60	165	0
Code GUI part	45	90	120	165	75
Integrate and test	165	285	165	285	0
Write user manual	15	75	225	285	210

The Calculated ES, EF and LS, LF have mentioned the Diagrams below Also the critical path is analyzed.





The PERT chart is as follows :