Project SPM Document

Project Title: Bingescape (Web Streaming Service)

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Subject: Software Engineering Lab

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Size Estimation (Function Point Metrics):

Step 1: UFP (Unadjusted Function Point) Computation

Inputs:
1. User's Details(Simple)
2. Subscription Plan (Average)

Total: 2

Outputs:
1. Movie or Web Show Details (Average)
2. Recommendations similar to requested content (Average)
3. Reviews of Movies and Shows (Complex)
4. Play the requested content (Average)

Total:4

Inquiries:
1. Search Query(Simple)

Total: 1

Files:
1. User Data Files(Average)
2. Media files(Average)

Total: 2

Interfaces:
1. Website for logged in users (free-users)(Simple)
2. Website for logged in users with subscription(Average)
3. Website for logged-out users(Simple)

Total: 3

Calculation:

UFP = (Number of Inputs)*4 + (Number of Outputs)*5 + (Number of inquiries)*4 + (Number of files)*10 + (Number of interfaces)*10

= (2 * 4) + (4 * 5) + (1 * 4) + (2 * 10) + (3* 10)

= 8 + 20 + 4 + 20 + 30

= 82

Step 2: Refining Parameters

Refining parameters by assigning them as simple, average or complex.

Inputs:

1 Simple + 1 Average

Outputs:

3 Average + 1 Complex

Inquiries:

1 Simple

Files:

2 Average

Interfaces:

2 Simple + 1 Average

Calculation

Refined UFP = ((1*3) + (1*4)) + ((3*5) + (1*7)) + (1*3) + (2*7) + ((2*7) + (1*10))

= 7 + 22 + 3 + 14 + 24

= 70

Calculating Refined UFP using the complexity of the variables

	Simple	Average	Complex
Inputs	1	1	0
Outputs	0	3	1
Inquiries	1	0	0
Files	0	2	0
Interfaces	2	1	0

Step 3: Refine UFP based on complexity of the overall project

Function Point Relative Complexity Adjustment Factors Score on a scale of (0-5)

Requirement for reliable backup and recovery	6
Requirement for data communication	3
Extent of distributed processing	2
Performance requirements	4
Expected operational environment	4
Extent of online data entries	6
Extent of multi-screen or multi-operation online data input	3
Extent of online updating of master files	5
Extent of complex inputs, outputs, online queries and files	3
Extent of complex data processing	2
Extent that currently developed code can be designed for reuse	5
Extent of conversion and installation included in the design	1
Extent of multiple installations in an organization and variety of customer organizations	2
Extent of change and focus on ease of use	5

Degree of Influence(DI) = 51

Technical Complexity Factor(TCF) = 0.65 + (0.01 * DI)
= 0.65 + 0.51
= 1.16

Function Point(FP) = UFP * TCF = 70 * 1.16
= 81.2

EFFORT AND TIME ESTIMATION:

We are using the *COCOMO* model to estimate development time and effort.

We have estimated the number of lines of source code to be about *2,800* based on observation of similar projects.

Home Page : 250

Log-in Page : 100

All Components: 1200

Testing: 850

Others : 400

Total : 2800 LOC

KLOC : 2.8

Estimation Of Development Effort = 2.4 * ((KLOC)1.05)PM

= 2.4 * 2.94 PM

= 7.06 PM

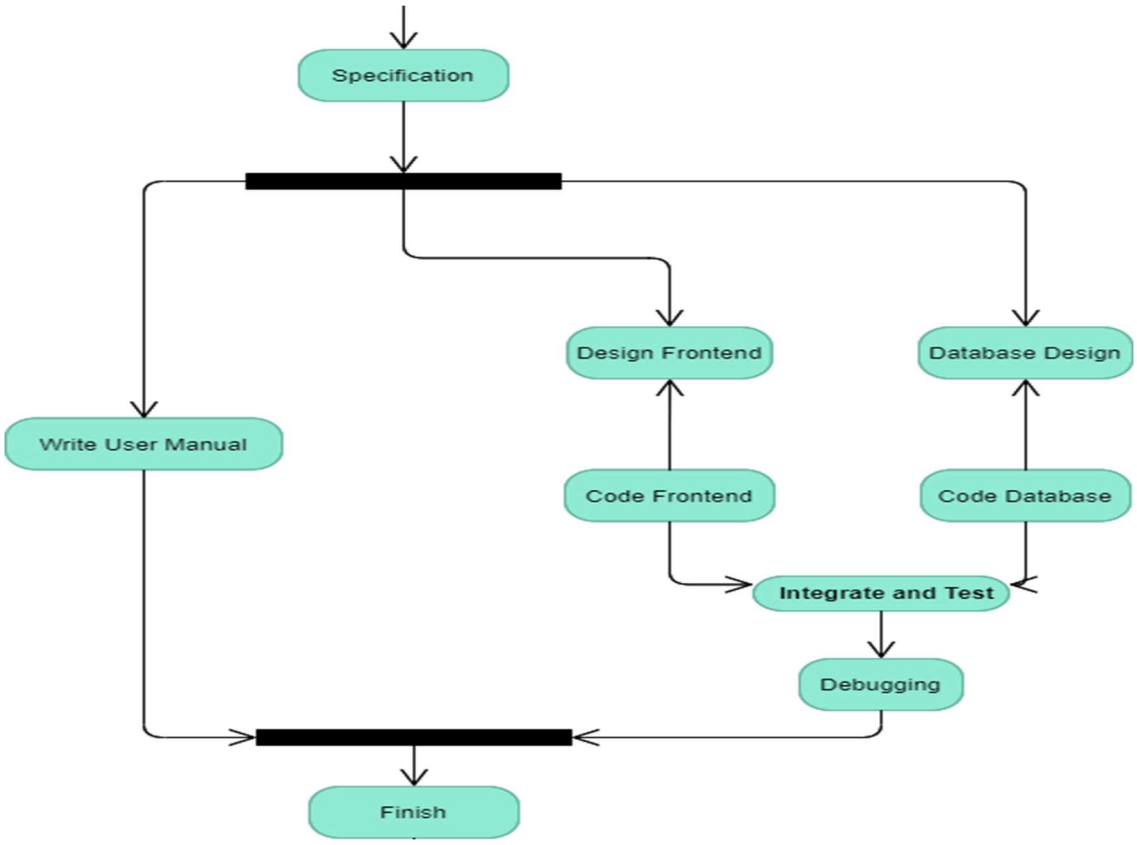
Total Development Time(Tdev) = 2.5 * (7.06)0.38

= 2.5 * 2.1 Months

= 5.25 Months

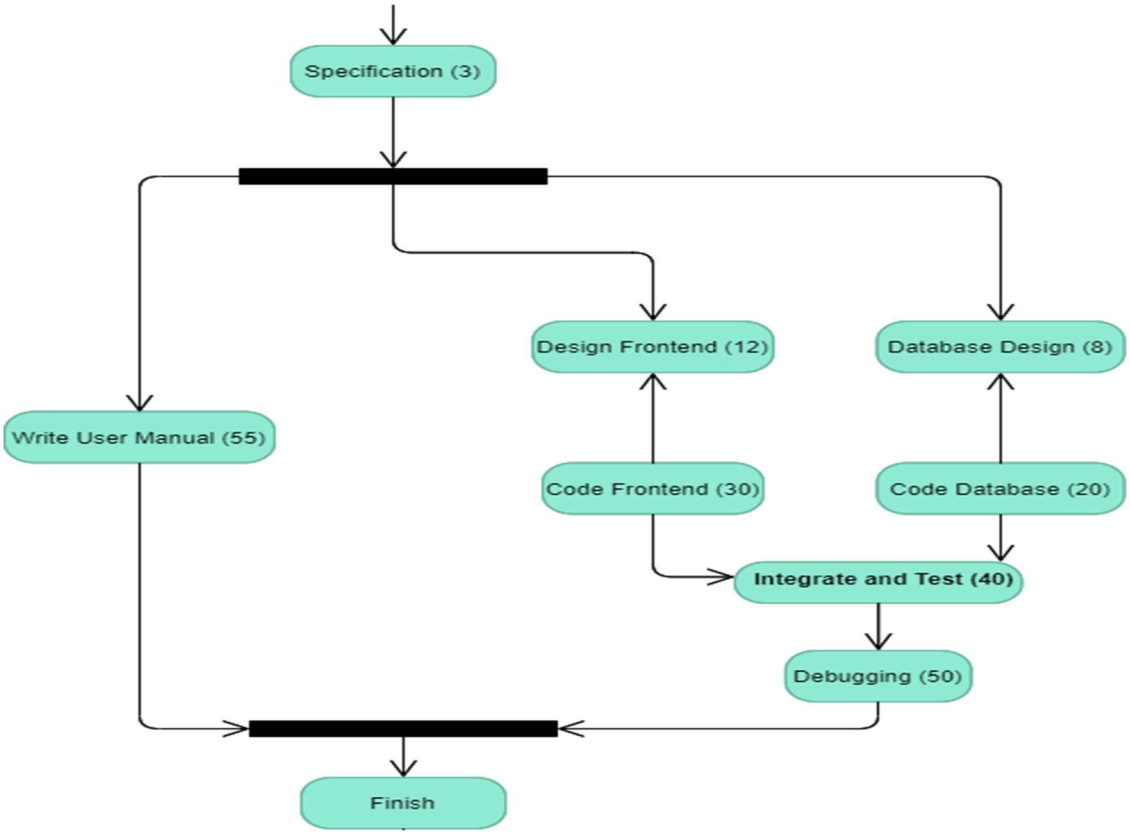
Project Schedule Breakdown:

1.Activity Network



Task number	Task	Duration (in days)	Task dependent
T1	Feasibility	7	--
T2	Specification	3	T1
T3	Design Database	5	T2
T4	Design Frontend	4	T2
T5	Code Database	7	T3
T6	Code Frontend	15	T4
T7	Integrated Testing	7	T5,T6
T8	Debugging	7	T7
T9	Write User Manual	2	T2
T10	Finish	0	T9, T8

2.PERT Table



Task	Early Start	Early Finish	Latest Start	Latest Finish	Slack Time
Specification	0	3	0	3	0
Design Database	3	8	5	10	2
Design Frontend	3	12	3	12	0
Code Database	8	19	11	22	3
Code Frontend	12	34	17	39	5
Integration & Testing	19	41	20	42	1
Debugging	41	48	41	48	0
Writing User Manual	3	50	6	53	3