


Software Project Management



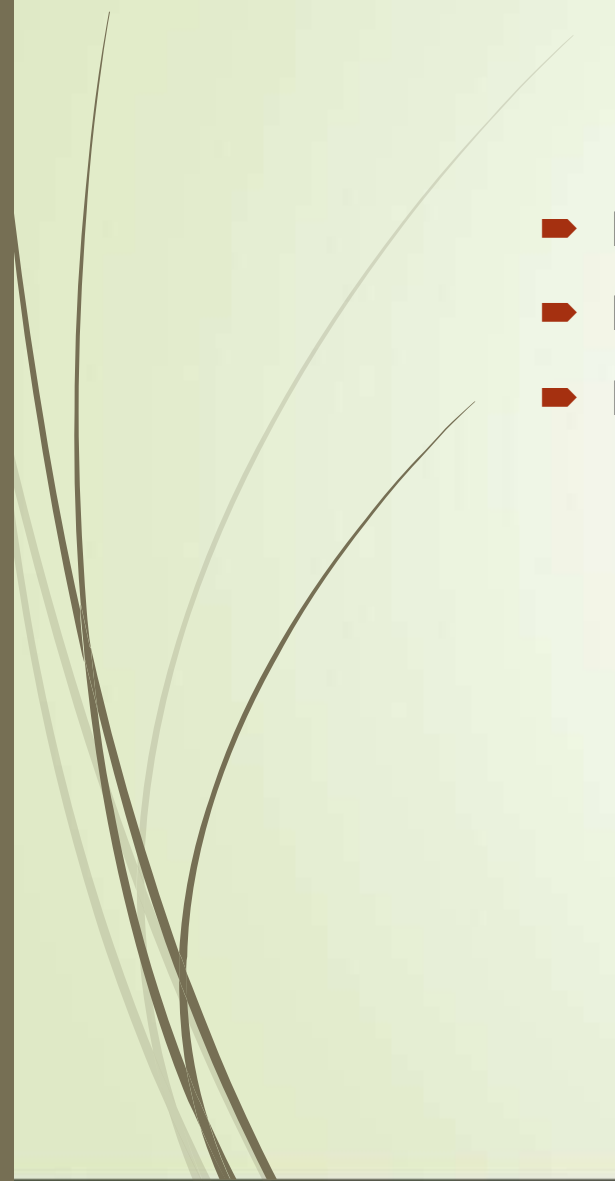


What is project

- Project is a temporary work that create unique product or service with having fixed starting time and deadline for completion the work.
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Project Management

- Project Planning and Organizing
 - Project Staffing
 - Directing, Monitoring and Controlling
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Responsibility of a Project Manager

- Takes overall responsibility of steering project to success.
- Building up efficient team to successfully complete a project.
- project cost estimation
- Project scheduling
- Project Staffing
- project monitoring and control
- Risk management




Project Planning

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- **Estimation:**
 - Cost :
 - Duration:
 - Effort:
 - **Scheduling:**
 - **Staffing:**
 - **Risk Management**



Project Estimation

- For an effective project management , various parameters must be estimated such as:
 - Project Size Estimation
 - Cost Estimation
 - Effort Estimation
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Metric For Project Size Estimation

- **LOC: (Line of Code):**


- This metric measures the size of a project by counting the number of source instructions in the developed program. Obviously, while counting the number of source instructions, comment lines, and header lines are ignored.

- **Short Coming:**

- Though this metric is so popular for its simplicity , but using this metric estimate the project size accurately at the beginning level, is quite difficult.



Function Point Metric

- Conceptually, the function point metric is based on the idea that a software product supporting many features would certainly be of larger size than a product with less number of features.
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Steps For calculating Function Point Metric

- Calculate UFP (unadjusted function points):
- $$\text{UFP} = (\text{Number of inputs}) * 4 + (\text{Number of outputs}) * 5 + (\text{Number of inquiries}) * 4 + (\text{Number of files}) * 10 + (\text{Number of interfaces}) * 10$$



Function Units	Low	Avg	High
EI	3	4	6
EO	4	5	7
EQ	3	4	6
ILF	7	10	15
EIF	5	7	10



Identifying Scaling Value

0 - No Influence


1 - Incidental

2 - Moderate

3 - Average

4 - Significant

5 - Essential



Given the following values, compute function point when all complexity adjustment factor (CAF) and weighting factors are average.

User Input = 50 User Output = 40 User Inquiries = 35 User Files = 6 External Interface = 4

- Step-1:** As complexity adjustment factor is average (given in question), hence,
•scale = 3.


$$F = 14 * 3 = 42$$

- Step-2:**CAF = $0.65 + (0.01 * 42) = 1.07$

- Step-3:** As weighting factors are also average (given in question) hence we will multiply each individual function point to corresponding values in TABLE.

- UFP = $(50*4) + (40*5) + (35*4) + (6*10) + (4*7) = 628$

- Step-4:**Function Point = $628 * 1.07 = 671.96$



FP	LOC
1. FP is specification based.	1. LOC is an analogy based.
2. FP is language independent.	2. LOC is language dependent.
3. FP is user-oriented.	3. LOC is design-oriented.
4. It is extendible to LOC.	4. It is convertible to FP (backfiring)



Project Estimation Technique

- **Empirical Estimation:**

- ☐ Expert Judgement Method

- ☐ Delphi Cost Estimation

- **Heuristic Techniques:**

- ☐ Basic COCOMO

- ☐ Intermediate COCOMO

- ☐ Complete COCOMO



Reference

- <https://www.google.co.in>
 - Fundamentals of Software Engineering, Rajib Mall , PHI
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