Software Project Management KOE-068

Assignment-02

Prepared By

Nikita Patra
2100301530067
AIML-3B

Submitted to

Mrs. Neha Varma

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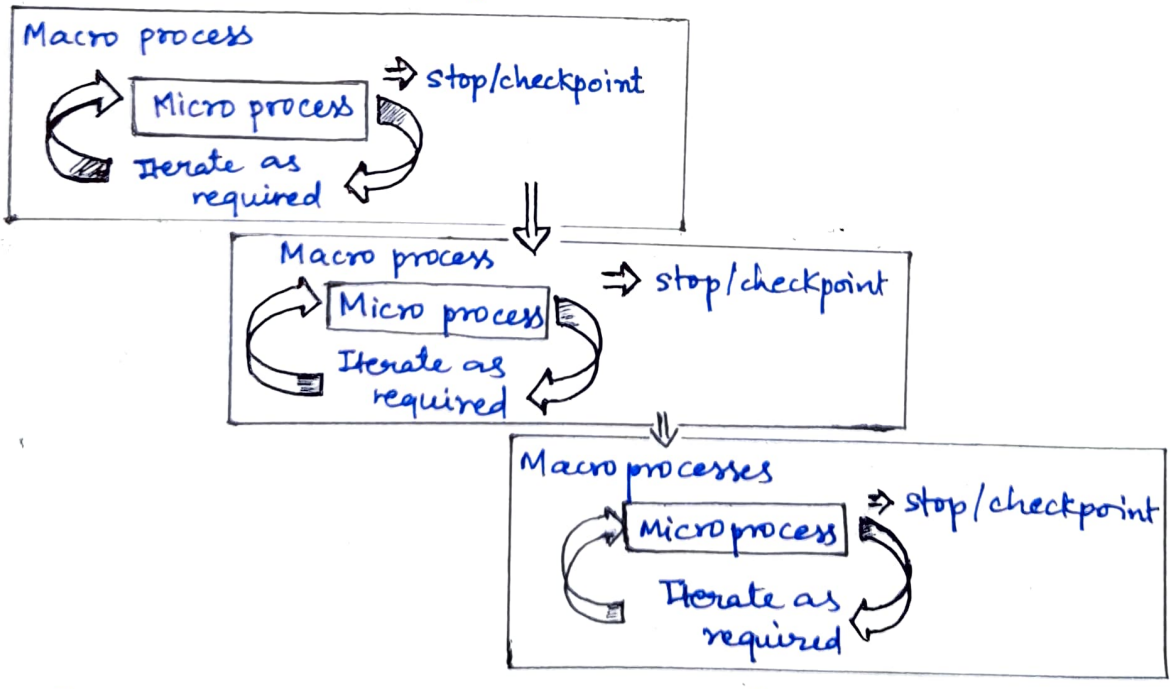
Assignment-02

Ques-1) Discuss how to manage the iterative process.

Ans-1) Managing Iterative processes:

1) XP correctly emphasize the importance of communication and removing artificial barriers to developement productivity.
2) Techniques of XP shows that many conscious techniques to counter the excesses of hacking and to ensure the good maintainable code is written.
3) Booch suggests that there are two levels of developement
   (1) The macro processes
   (2) The micro processes.
4) Macro Processes: Related to waterfall process model. We need to know the date when we know that major activities will be finished when we will need to bring in staff to work on sub-sequent activities.
5) Micro Processes: Within the Macro processes there will be micro processes which involve iterative working.
6) Macro processes involves a number of iterative sub processes.
7) In iterative micro processes, the use of time boxes is needed to control at the macro level.
8) Macroprocess can itself be iterative. Each iteration should be treated as a project in its own right.



A macro-process containing three iterative processes (micro).

Ques-2) A project size of 200 KLOC is to be developed. Software development team has average experience on similar type of projects. The project schedule is not very tight. Calculate the Effort, development time, average staff size, and productivity of the project.

Ans-2) Given line of codes = 200 KLOC

∴ It is semi-detached category project.

We will use the basic COCOMO model where.

Project	a	b	c	d
Semi-detached	3.0	1.12	2.5	0.35

1. Effort (E) = $3.0 \times (200)^{1.12}$
   $= 3.0 \times 287.17 \approx 861.51$ Person-Months.
2. Development Time (D) = $2.5 \times (861.51)^{0.35}$
   $= 2.5 \times 22.58 \approx 56.45$ Months.
3. Average Staff size (S) = E/D = 861.51 / 56.45 = 15.28 ≈ 15 persons.
4. Productivity (P) = KLOC/E = 200/861.51 ≈ 0.23 KLOC/Person-Month.

Ques-3) Explain the following models : (1) Agile (2) Scrum (3) DSDM (4) Extreme Programming

ans-3) (1) Agile Method :

(1) It refers to a software development approach based on iterative development.
(2) Agile method break task into smaller iteration.
(3) The project scope and requirements are done at the beginning of the development process.
(4) Each iteration is called frame that is considered as a short time.
(5) It helps to minimise the project risk & reduce the overall project delivery time.
(6) Each iteration involves a team working through a full SDLC.

There are various agile approaches.

(a) Atern
(b) Feature driven
(c) Scrum
(d) Extreme Programming (XP)
(e) Crystal Technologies.

(2) Scrum :

This process focuses primarily on ways to manage task. How we manage task in team based development conditions.

There are 3 roles in it and their responsibilities are -

(1) Scrum Master - Arrange the meeting & remove obstacles for the project
(2) Product order - Makes the product backlog. Prioritize the delay.
(3) Scrum Team - Team manager organize the work to complete the cycle.

(3) DSDM:

(1) Dynamic Software Developement method. It is a rapid application developement strategy for software developemant and giving an agile project distribution structure.

(2) The essential feature of DSDM that users must be actively connected & team have been given the right to make decisions

(3) The techniques used in DSDM
   ① Time boxing
   ② Prototyping

(4) DSDM project contains 7 stages
   ① Pre Project
   ② Feasibility Study
   ③ Business Study
   ④ Functional model iteration
   ⑤ Design & built iteration
   ⑥ Implementation
   ⑦ Post Project.

(4) Extreme Programming (XP): This method is used when the customers are constantly changing demands or requirements or when they are not sure about the system performance.

Ques-4) Compute the function point, productivity, documentation, cost per function for the following data.

1. No. of user inputs = 24
2. No. of user outputs = 46
3. No. of inquiries = 8
4. No. of files = 4
5. No. of External Interfaces. = 2

Solution-4) Unadjusted Function Point (U.F.P.) = (24 x 4) + (46 x 5) + (8 x 4) + (4 x 10) + (2 x 7) = 412

- Function Point F.P. = U.F.P x C.A.F. = 412 x 1.07 = 440.84.

  F = 14 x 3 = 42 ; C.A.F. = 0.65 + (0.01 x 42) = 1.07
- Productivity = AFP / Effort = 412 / 1638.12 = 0.25
- Documentation : Assume 20%.

  = 0.20 x 1638.12

  = 327.624.
- Cost per function = $\frac{\text{Total Project Cost}}{\text{UFP}} = \frac{1,000,000}{412} = 2427.18$

Ques-5) What is cosmic FFP and what are the 4 Data movements in it? When there are 2 data movements given for all the 4 types. Find the functional size?

COSMIC Full function point deals with decomposing the system architecture into hierarchy of system software.

COSMIC recognise 4 data movements:

(1) Entry
(2) Exit
(3) Read
(4) Write.

when there are 2 data movements for all 4 types.

(1) Entry - 2 CFP
(2) Exit - 2 EFP
(3) Read - 2 CFP
(4) Write - 2 CFP

Functional size = 4 X 2 CFP = 8 CFP

Functional size = 8 CFP