

## UNIT-3 : Workflows and Checkpoints of Process

- S/w Process workflows ✓
- Iteration workflows ✓
- Major milestones } ✓
- Minor milestones } ✓
- Periodic status assessments
- Process planning work breakdown structures ✓
- Planning guidelines ✓
- Cost & Schedule estimating process ✓
- Iteration planning Process ✓
- Pragmatic Planning. ✓

## UNIT-3

→ ~~WFR~~ → steps followed to develop S/W.

### Workflow of the Process

→ the term workflow refers to the series of sequential tasks

— that are performed to achieve certain goal.

→ Each workflow step is defined by 3 parameters:

①. Input

②. Transformation

③. Output

→ In workflow process a series of actions are performed to achieve a business outcome.

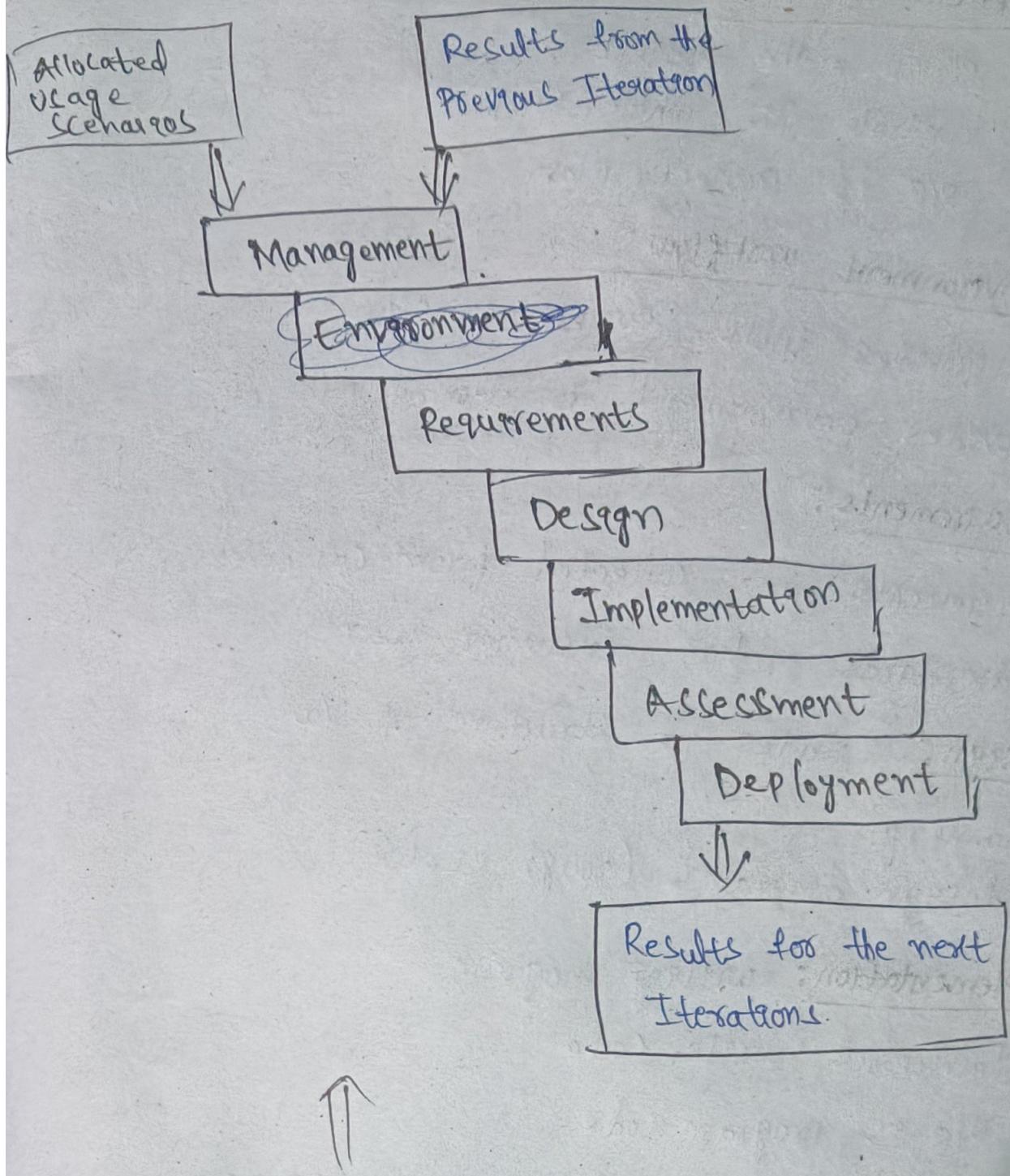
→ A Process workflow is a type of workflow that focuses on completing a business process.

→ the goal of a workflow process is to improve

— efficiency

— consistency

— communication



\* Iteration workflow

## \* Iteration Workflow

### ①. Management workflow: (Plan, Control)

- It Plans a the project
- It controls the whole project
- The o/p is Project Plan

### ②. Environment workflow:

- It provides tools, computers, S/W
- Provides environment to develop project

### ③. Requirements:

- Requirements are collected from customers.
- Understands what customer wants.

### ④. Design: Creates a structure of S/W

- Planning
- design diagrams (rough sketch)

### ⑤. Implementation: writing Program

- develops write code
- O/P is, program code

### ⑥. Assessment: Test quality & check errors

- Test report

### ⑦. Deployment: Delivers S/W to customer

## \* Software Process workflow (or) Principles

- Generally a workflow as a series of steps, in which processes are executed to complete a certain project (or) activity.
- S/w Process is a process for planning, building, testing & deploying a S/w application.
- It has 7 levels :
  - ① management workflow
  - ② environment "
  - "
  - "
  - "
  - "
  - ⑦ Same as Iteration workflow

taking review (is Project executing)

## Checkpoints of the Process

1. Major milestone: Wide events are held at the end of the each development phase. these are 4 phases after 4 phases completion major milestones 4 cycles Wide events
2. Minor milestone: Iteration-focused events are conducted to review the content of an iteration. 4 cycles
3. Status milestone: Periodic event frequent & regular Insight of process Reviewing once in a week or 15 days 1 week or 15 days iteration Engineering Production

Inception	Elaboration	Construction	Transition
Iteration 1	Iter 2	Iter 3	Iter 4 Iter 5 Iter 6 Iter 7

1. mgmt
2. Environment
3. Requirement
4. Design
5. Implementation
6. Assessment
7. Deployment.

### ③ Major Milestone

- 1). Indicate the completion of a major phase in the project.
- 2). Represent big achievements.
- 3). They are formal.
- 4). Checked by higher management.
- 5). Occur rarely.
- 6). At the end of each phase.
- 7). Major deliverables are produced.  
(SRS, Design, Document, Tested Product)
- 8). It is a major project checkpoint.
- 9). Big checkpoint.
- 10). It marks the completion of a major project phase.
- 11). Delay in major milestone causes major project delay.
- 12). Decide to go/no-go for next phase.

### Minor milestone

- 1). Indicate the completion of smaller tasks inside a phase.
- 2). Represent small achievements.
- 3). They are informal.
- 4). Checked by team or project manager.
- 5). Occur frequently.
- 6). At end of the task.
- 7). Small deliverables are produced.  
(drafts, modules)
- 8). A smaller checkpoint.
- 9). Small checkpoint.
- 10). It marks the completion of a small task inside that phase.
- 11). Delay in minor milestone causes small interval delays.
- 12). Identify issues.

## \* Major Milestone

- A milestone is a specific point of time in a project
  - which is used to measure the progress (status) of a project
  - towards its goal.
- Milestones are checkpoints in a project.
- They help to check progress & control project
- Represents big achievements in the project.
- At the end of each phase.
- It shows major progress.
- ⇒ Major milestones are the key checkpoints
  - at the end of major phases
  - to review overall project progress & quality
- It has 4 cycles:
  - Inception
  - Elaboration
  - Construction
  - Transition

## \* Minor Milestone

- Minor milestones are small progress points inside a phase
  - to check short-term achievements.
- Represents small achievements inside each phase.
- These are iteration-focused events.
- To review the content of an iteration.
- It is used to:
  - review the iteration results.
  - determine the ~~the~~ amount of rework
  - review the impact of iteration
- It has 7 cycles:
  1. management
  2. Environment
  3. Requirement
  4. Design
  5. Implementation
  6. Assessment
  7. Deployment

## \* Periodic Status Assessments

- A regular check to see how the project is going.
- Checking Project Progress again & again at fixed intervals.

Why?

- To see if Project is on track
- To find Problems early
- To control cost
- To avoid delays

⇒ During each status assessment, the team checks:

- work completed
- work pending
- problems
- cost & schedule
- quality of work

When is it done?

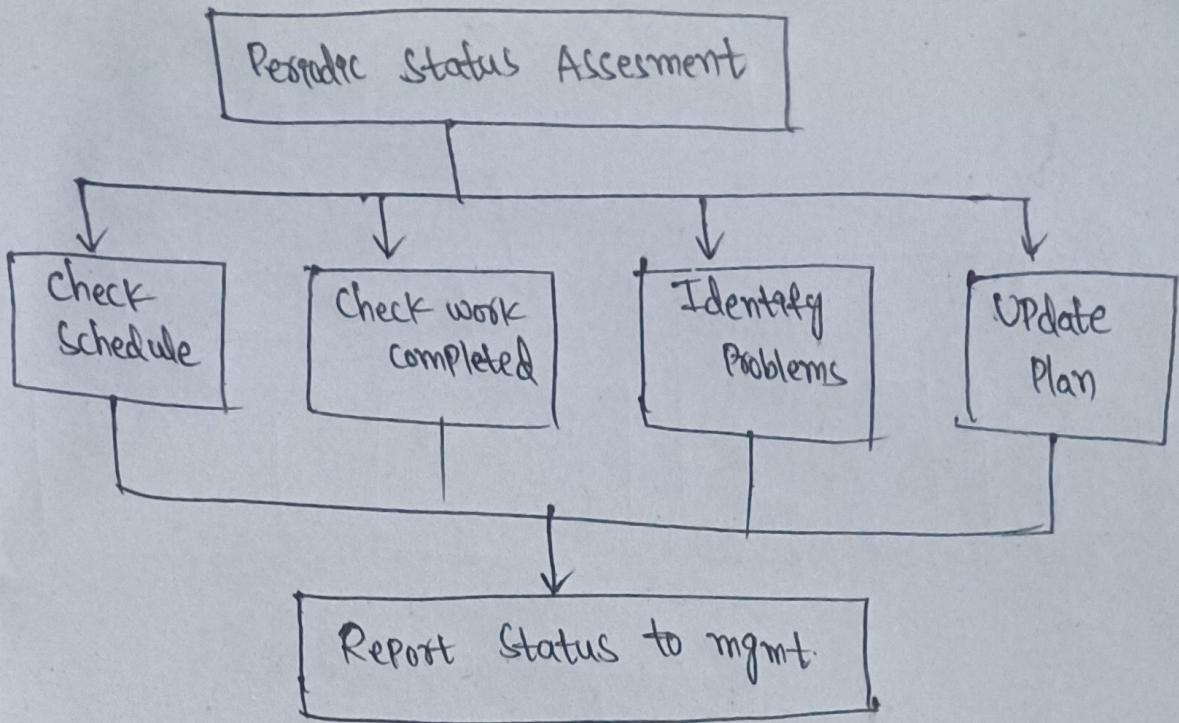
- weekly
- monthly
- at end of each phase

⇒ Depends on Project Plan.

Ex: Suppose your Project has weekly meetings (Friday)

- Every Friday:
  - Team reports work done
  - manager check progress
  - issues discussed (or) same
  - Quality

⇒ It is a regular review of Project Progress.



- ~~Per~~ Periodic - Done at regular intervals (weekly, monthly)  
Status Assessment - checking current status vs goals  
→ It is monitoring & measuring the Project's performance regularly.

## \* Pragmatic Planning

Pragmatic = Practical + Realistic

→ Planning that is realistic, practical & doable

— not imaginary

→ make plans based on real conditions

— not assumptions

→ use facts

→ keep the plan simple & achievable

Why?

→ To avoid unrealistic schedules

→ To reduce project failures

→ To match with actual work.

### (Features)

— task aware planning

— realistic goals

— Based on data (past experience)

— flexible

— clear priorities

— team involvement

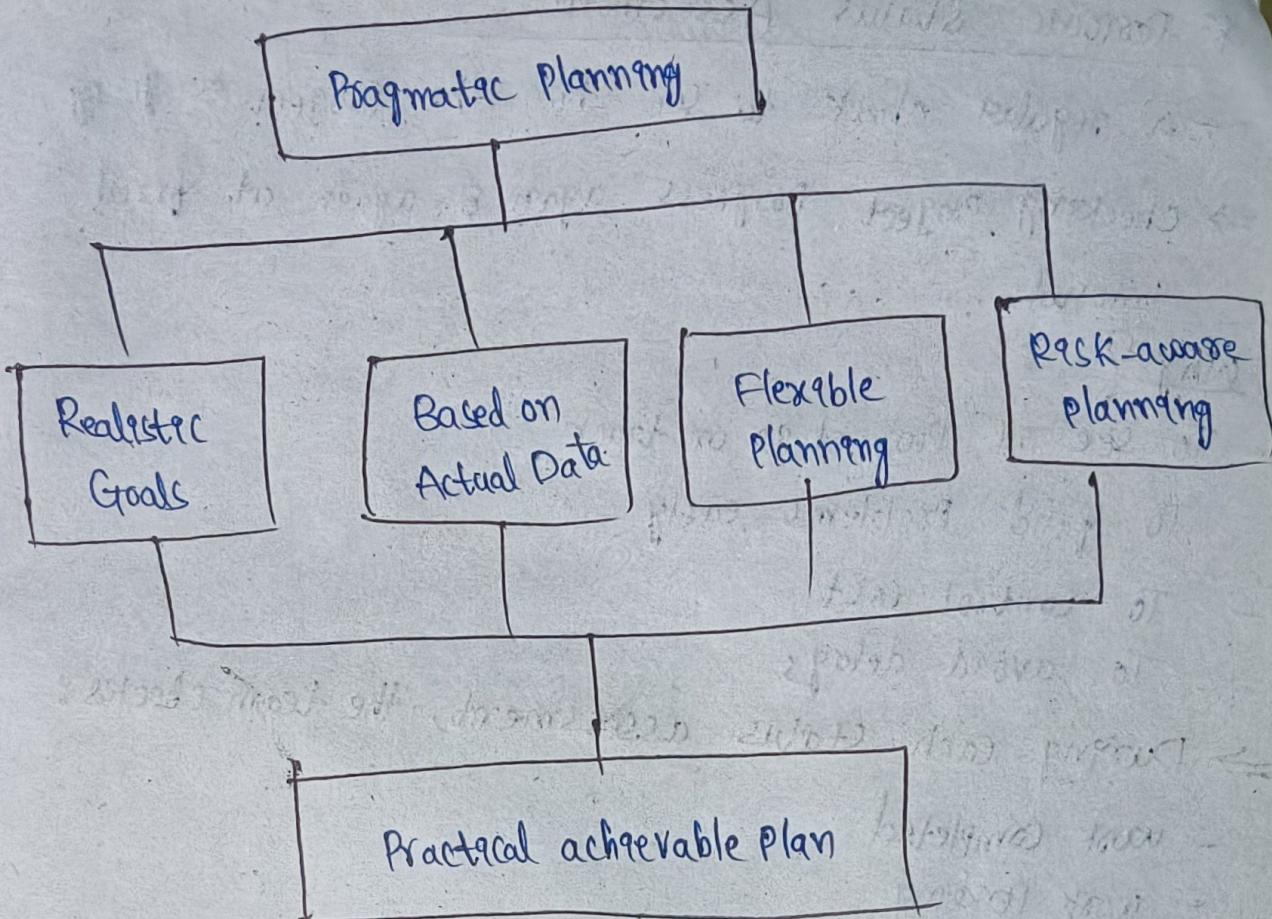
Ex: A team normally needs 5 days to finish a task

- A pragmatic plan assigns 5-6 days, not 2 days  
⇒ practical & achievable

→ they consider, time, cost, team skills, past

experience

— then take project



## \* Cost & Schedule estimating Process

- helps in determining no. of resources to complete all project activities.
- A good estimating is very much essential for a project
  - To keep o under budget
- Before developing a project, budget & time planning is necessary.
- By estimating & planning budget gives an idea about the project investment

⇒ Two perspectives are generally required:

①, Forward-looking:

- Also called as Top-Down approach.

②, Bottom-up approach

- ⇒ This process tells how much money the project needs
  - & how much time it will take.

1. Understand requirements (First understand project clearly)

2. Break the project into Tasks (WBS) (small tasks = easy to do)

3. Estimate effort for Each task  
(Time)

- how many hours or days each task needs

4. Estimate cost

- Cost = effort × cost per person

- also add :-
    - Tool cost
    - S/w cost
    - h/w cost
    - Training cost
- ⇒ Gives total project budget

## 5. Estimate Schedule (Timeline)

→ gives total project duration

## 6. Review

- check if estimate is realistic

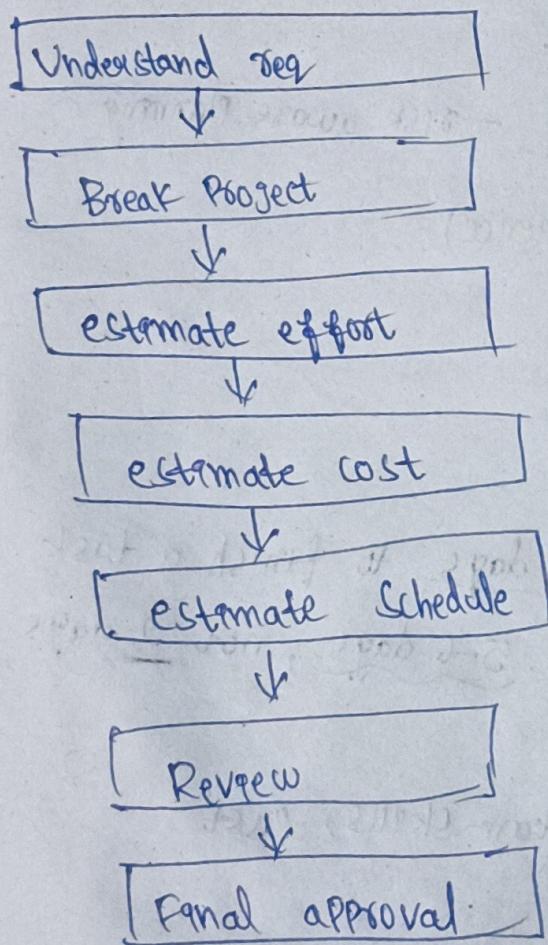
- Adjust

## 7. Final Approval

- Manager & client approve the final cost & schedule

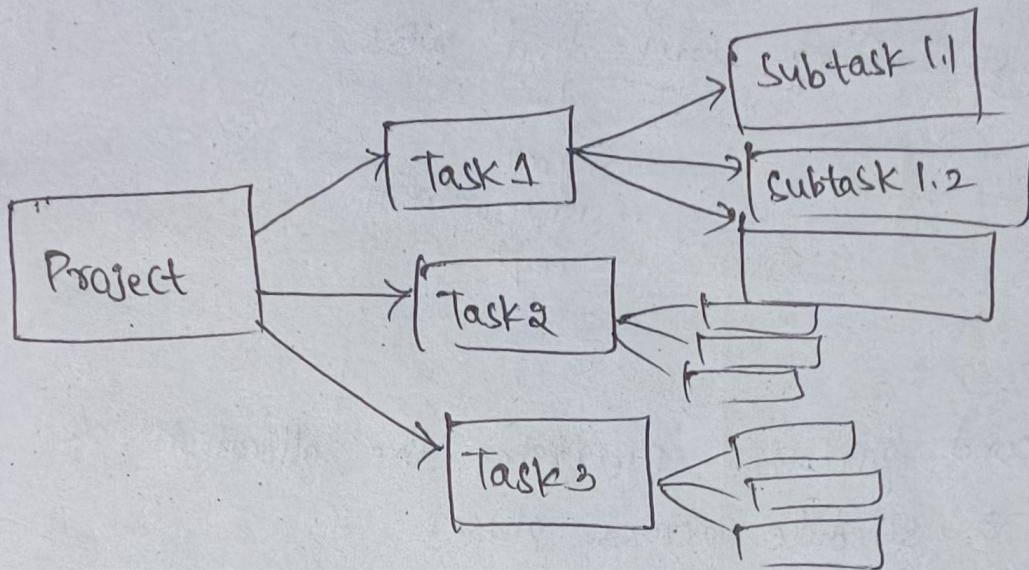
- Project officially starts

⇒ It is a process or method of calculating the total budget & total time required to complete a project.



## \* Work Breakdown Structures (WBS)

→ WBS means dividing main tasks into sub tasks



## \* Planning Guidelines

- Two simple planning guidelines should be considered when a project is initiated/started.
- 2 Plans:
- the first guideline prescribes a default allocation of cost among first-level WBS
  - mgmt
  - environment
  - regt
  - cost
- the second guideline prescribes the allocation of effort & schedule across phases