Management and Governance

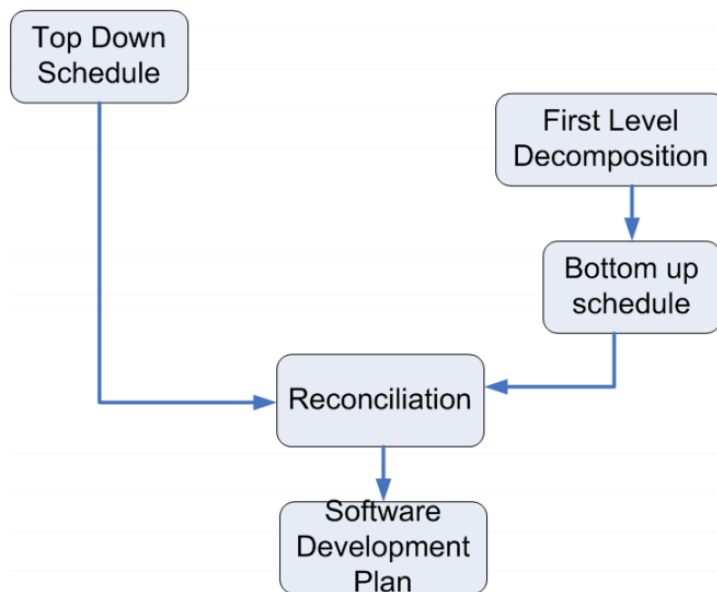**Outline**

---

1. Planning

The planning process involves creating a roadmap for the project. It starts with an initial top-down plan to get approval from upper management and estimate costs and schedule.

Example: A company planning to build a new software estimates the high-level tasks and costs to get budget approval.

Diagram: The Planning Process

```
Top Down                    First Level
Schedule                    Decomposition
   │                              │
   │                              ▼
   │                        Bottom up
   │                        schedule
   │                              │
   ▼                              ▼
         Reconciliation ◄─────────
              │
              ▼
         Software
         Development
         Plan
```

Top-Down Schedule

A top-down schedule helps management decide whether to initiate the project and allocate resources.

- **Example:** For a medium-sized project (e.g., 150,000 lines of code), the team estimates time for designing, coding, and testing.

Remaining Planning Steps

The architecture team develops an initial system design and a bottom-up schedule, which is then aligned with the top-down schedule to create the project's final schedule.

---

2. Organizing

Organizing defines roles, responsibilities, and the team structure.

Project Manager and Software Architect Collaboration

The Project Manager (PM) and Software Architect (SA) must coordinate and respect each other's roles for effective project management.

- **Example:** The PM handles schedules and resources, while the SA focuses on technical design and team organization.

Global Software Development

Global development requires teams across different locations to coordinate closely.

- **Example:** A company with development teams in India and the US needs structured communication to synchronize tasks.

Diagram: Coordination Induced by Module Interaction
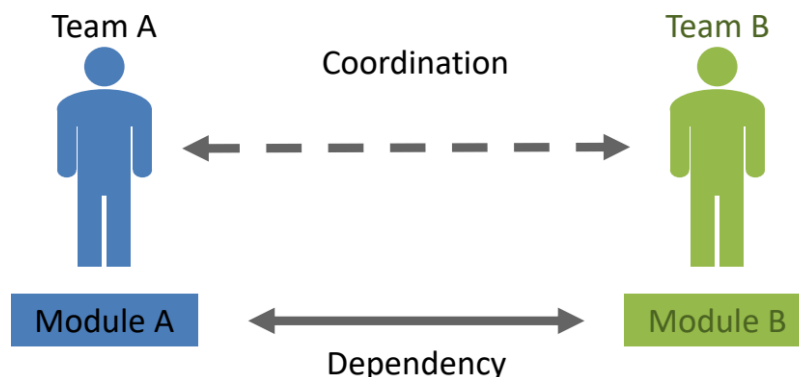
3. Implementing

Implementation covers executing tasks, making trade-offs, and tracking progress.

Trade-Offs

PMs and SAs make trade-offs between quality, schedule, and scope.

- **Example:** A feature might be delayed to prioritize critical bug fixes.

Incremental Development

Releases are developed in increments, allowing for continuous feedback and improvements.

Tracking Progress

Progress is monitored through personal contact, meetings, metrics, and risk management.

- **Example:** Regular status meetings identify risks and ensure tasks are on track.

4. Measuring

Metrics are essential for evaluating project progress and performance.

Global Metrics

Global metrics, such as size, schedule deviation, and defect count, give an overall view of project health.

- **Example:** Tracking open issues and unresolved risks helps PMs manage potential delays.

Phase Metrics and Cost to Complete

Phase metrics track specific phases of the project, helping the team gauge completion status and costs.

5. Governance

Governance ensures compliance, accountability, and control over the project.

Responsibilities of a Governing Board

1. Implement control over architectural components and activities.
2. Ensure compliance with standards and regulations.
3. Support effective management of project processes.
4. Ensure accountability to stakeholders.

Use Case Example: A Web Application Development Project

1. **Planning:** The PM creates an initial high-level plan and budget. After approval, the architecture team refines the schedule and designs the architecture.
2. **Organizing:** Roles are defined – the PM manages resources and deadlines, while the SA designs the technical solution.
3. **Implementing:** The team works in sprints, continuously delivering and testing small increments of the application.
4. **Measuring:** The PM tracks metrics like team productivity, bug counts, and feature completion.
5. **Governance:** Regular reviews ensure that the application meets internal quality standards and regulatory requirements.

Summary

Management and governance are essential for successful project delivery. Key steps include planning, organizing, implementing, measuring progress, and governing the project. Strong coordination between the PM and SA, structured metrics, and governance mechanisms are vital to keep the project on track.