NATIONAL UNIVERSITY OF MODERN LANGUAGES

ISLAMABAD

Software Engineering

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Prescriptive vs Descriptive Process Models

Process models are used in software engineering and system development to define how processes should be carried out. They can be broadly categorized into **Prescriptive** and **Descriptive** models.

Feature	Prescriptive Process Model	Descriptive Process Model
Definition	A structured, predefined model that dictates how a process should be executed.	A model that describes how a process is actually carried out in reality.
Purpose	Provides guidelines, rules, and steps to follow strictly for process execution.	Documents and analyzes the actual behavior of a process, even if it deviates from the original plan.
Nature	Rigid and standardized.	Flexible and adaptive.
Examples	Waterfall Model, Agile, Spiral Model, V-Model.	A real-world software development process as observed in an organization.
Use Case	Used for planning, structuring, and enforcing best practices in software development.	Used for analyzing, improving, and understanding actual processes.
Modification	Changes require structured updates and approvals.	Evolves dynamically based on real-world feedback and variations.

Key Differences

1. Prescriptive models define what should happen, while Descriptive models explain what actually happens.
2. Prescriptive models are ideal for structured development, whereas Descriptive models help in process improvement and optimization.
3. Descriptive models emerge from actual practice, while Prescriptive models are planned before execution.