

# Software Development Processes with a Waterfall Focus Guided Notes

## Instructions:

Fill in the missing blanks in the notes as you watch the course videos for this learning module.

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## Many Paths to Software Development

Software development can follow many different processes. They often overlap, and there is no one right way.

It is important to have a process in place that promotes productivity and teamwork.

## Waterfall Model

Waterfall is the traditional/baseline approach to software development.

It has a series of stages, where each stage is a process that converts one product to another.

Development flows from top (early) to bottom (later).

Pros	Cons
Highly <u>structured</u> . Encourages clear <u>requirements</u> from the beginning Promotes good <u>documentation</u> throughout Helpful for <u>large</u> projects	Developers must be <u>disciplined</u> . May not know all <u>requirements</u> ahead of time May be difficult to evaluate how later parts will work in practice

The V-model is a version of waterfall that emphasizes validation at each level.

# Iterative Development Models

Iterative methods deliver pieces of the product at different stages. They emphasize user analysis and feedback for improvement.

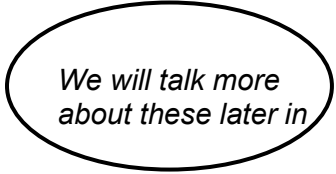
Prototyping delivers early (not fully functional) prototypes of the product. Challenges include hiding underlying difficulties, setting expectations too high, less flexible designs, and prototype attachment.

Spiral combines iterative, prototyping, and waterfall. Successive iterations create better prototypes and may use different techniques based on the current risk level.

Cleanroom emphasize control over iterative methods. Every iteration is tested on a very large data set and measured/analyzed for reliability.

## Incremental Development Methods

Incremental approach, instead of iterative. Examples include test-driven, agile, scrum, and extreme.



*We will talk more  
about these later in*

## Summary

Summarize your notes in 2-4 sentences. Identify the key points and the main take-away message.

There are many different types of software development processes- waterfall, iterative, and incremental being the primary categories. Though personal preferences for development processes are common, no method is greater than another. As long as a team has a unified organizational plan and sticks to it, the team will be well off!