

Basics of SDLC and Agile concepts

SDLC (Software Development Life Cycle) is the overarching framework for building software, defining structured phases (planning, design, build, test, deploy, maintain), while Agile is a flexible, iterative *approach* within the SDLC that breaks work into short cycles (sprints), prioritizing customer feedback, adaptability, and working software over rigid plans, contrasting with traditional linear models like Waterfall. Agile focuses on continuous delivery of value, using short iterations (2-4 weeks) for rapid feedback, while traditional SDLC aims for a single, large release with detailed upfront planning and documentation.

SDLC Basics (Traditional View)

Definition: A systematic process outlining steps to plan, create, test, and deploy software.

Phases (Linear):

Requirements Gathering: Define all needs upfront.

Design: Create detailed blueprints.

Development/Coding: Build the software.

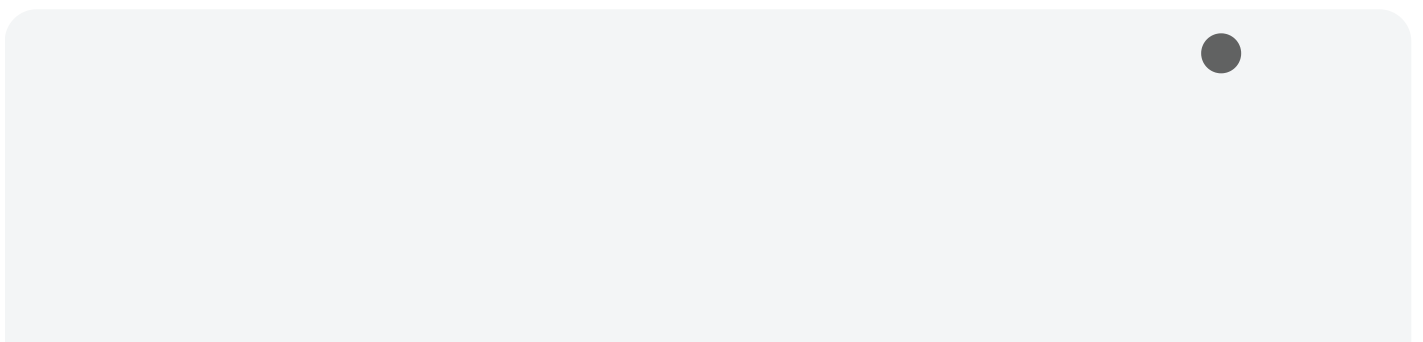
Testing: Verify functionality.

Deployment: Release to users.

Maintenance: Support and updates.

Characteristics: Sequential, less flexible, extensive documentation, customer feedback mostly at the end.

This video provides an overview of the traditional software development life cycle:





AltexSoft
YouTube • 18 Oct 2023

Agile Concepts

Definition: A mindset and set of principles for adaptive, incremental development, emphasizing people, collaboration, and rapid response to change.

Core Values: Individuals/interactions over processes/tools; working software over documentation; customer collaboration over contract negotiation; responding to change over following a plan.

Key Practices:

Iterations/Sprints: Short, time-boxed development cycles (e.g., 2-4 weeks).

Incremental Delivery: Deliver small, functional pieces of the product frequently.

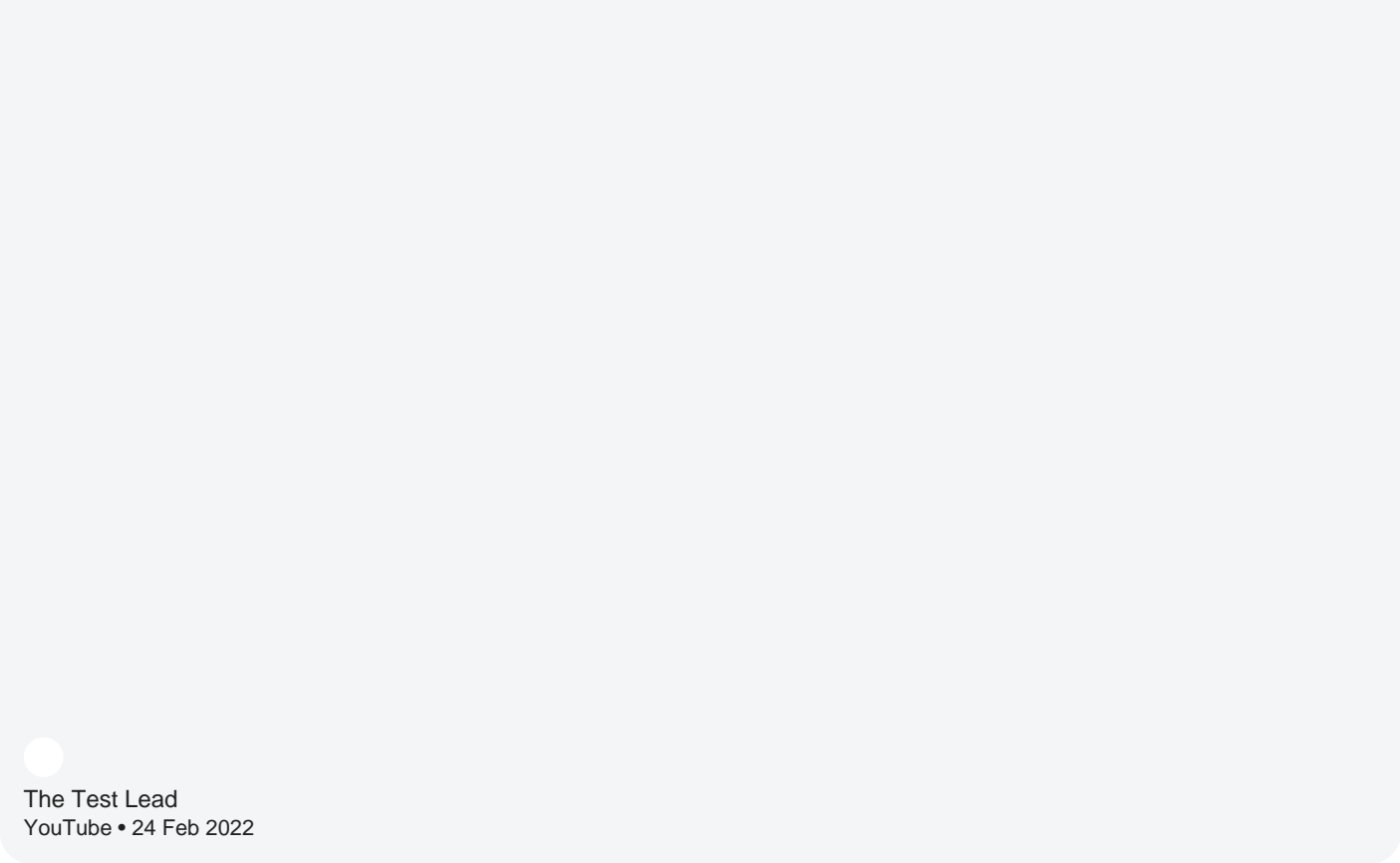
Cross-functional Teams: Developers, testers, etc., work together.

Continuous Feedback: Regular input from stakeholders.

Popular Frameworks: Scrum, Kanban, Extreme Programming (XP).

This video explains the core values of the Agile methodology:





The Test Lead
YouTube • 24 Feb 2022

How Agile Fits in SDLC

Agile isn't separate from SDLC; it's a way *to do* the SDLC. An Agile SDLC cycles through planning, design, build, and test phases rapidly within each short sprint, delivering value incrementally rather than waiting for one big launch.

Traditional SDLC (Waterfall): Plan all, design all, build all, test all, release all.

Agile SDLC (Iterative): Plan a bit, design a bit, build a bit, test a bit (for a small feature set), release (incrementally), then repeat.

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