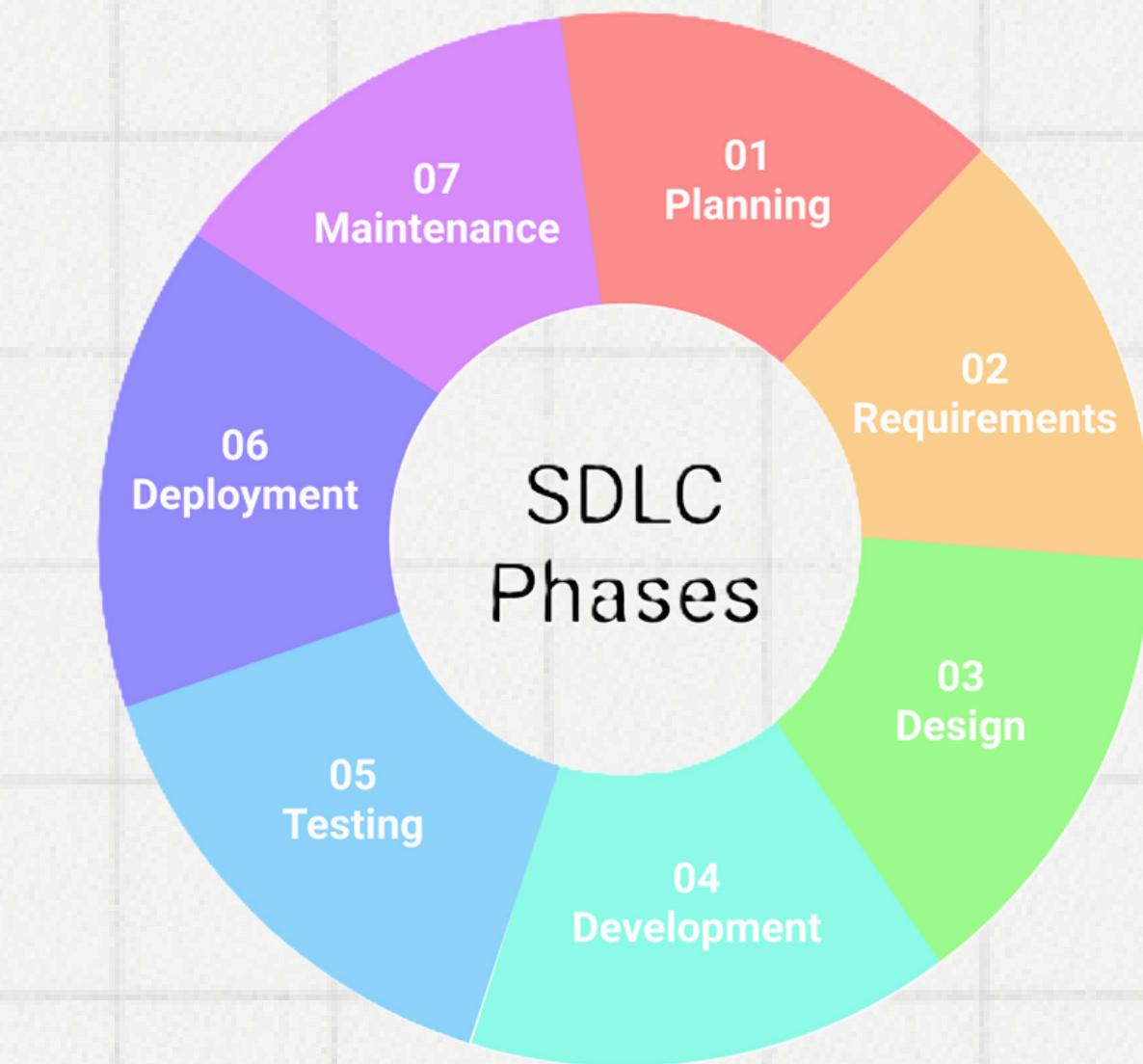


SDLC Lifecycle

Presented by Sandra Haro

Definition

- SDLC stands for Software Development Life Cycle. It is a process used by software development teams to design, develop, and test high-quality software. The SDLC aims to produce software that meets customer expectations, is delivered on time and within budget, and has minimal defects.
- SDLC provides a framework to manage the planning, creation, testing, and deployment of software applications efficiently.



Types of Models

01. Waterfall Model

02. Iterative Model

03. Spiral Model

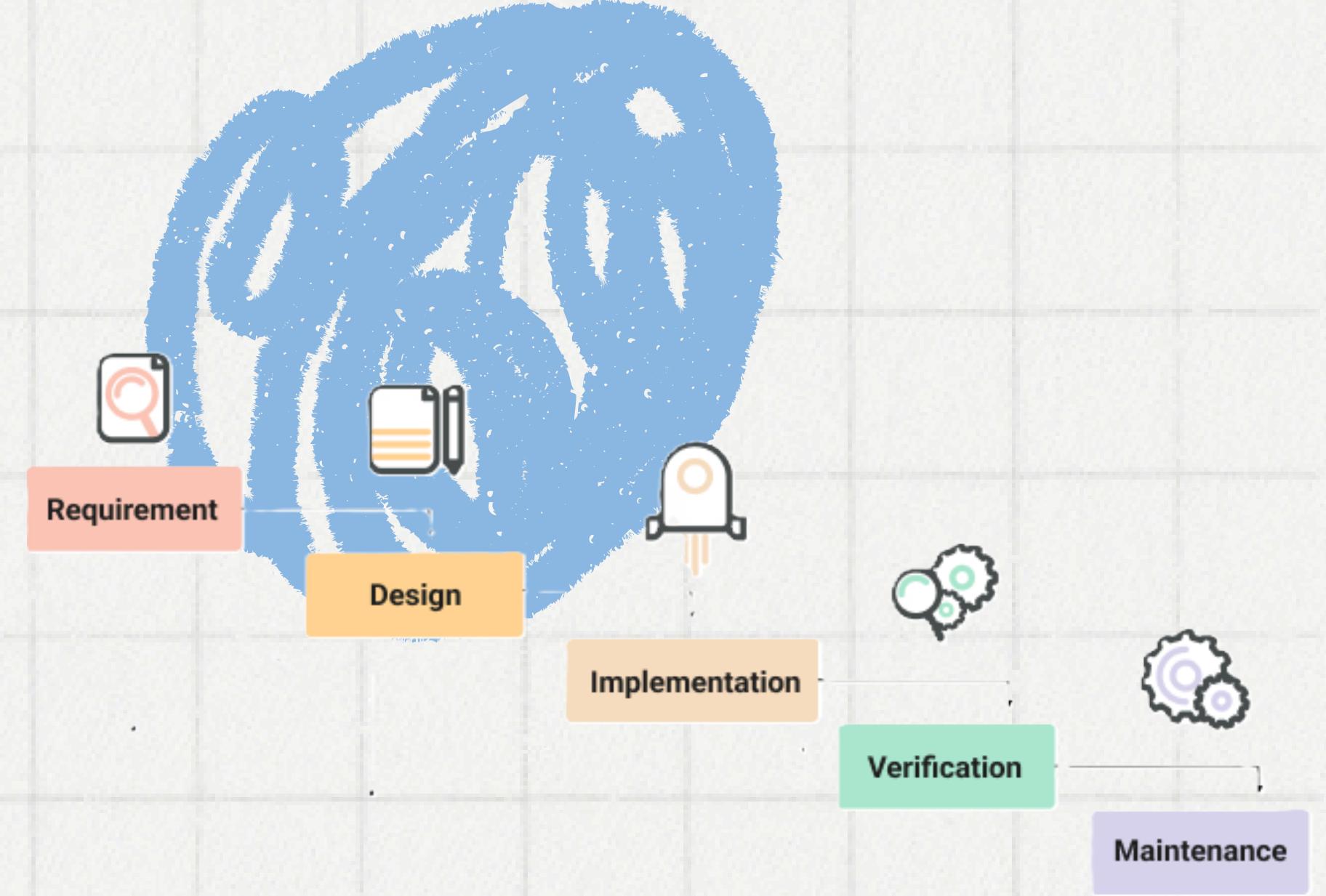
04. Agile Model

05. V - Model

Waterfall Model

This is a linear and sequential approach where progress is seen as flowing steadily downwards (like a waterfall) through several phases: requirements gathering, design, implementation, testing, deployment, and maintenance.

- **Advantages:** Clear project milestones and well-defined phases.
- **Challenges and Drawbacks:** Limited flexibility for changes once development starts.



Iterative Model

Iterative models involve iterative development cycles, refining the software through successive versions or iterations.

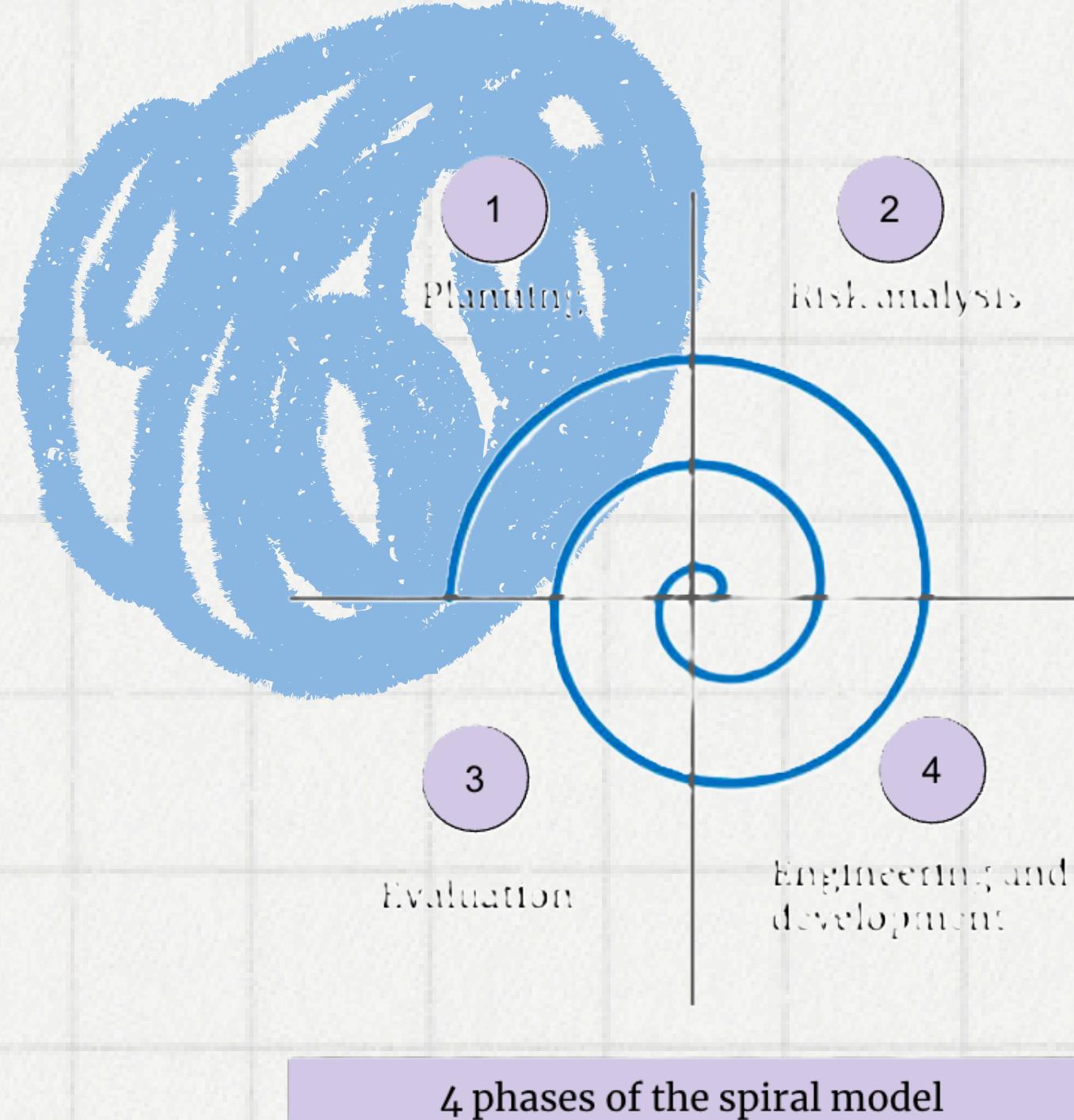
- **Advantages:** Incremental development allows for early releases and continuous improvement.
- **Challenges and Drawbacks:** Requires extensive planning and coordination between iterations; potential for scope expansion.



Spiral Model

Combines elements of both iterative development and the waterfall model. It allows for incremental releases of the product, or incremental refinement through each iteration around the spiral.

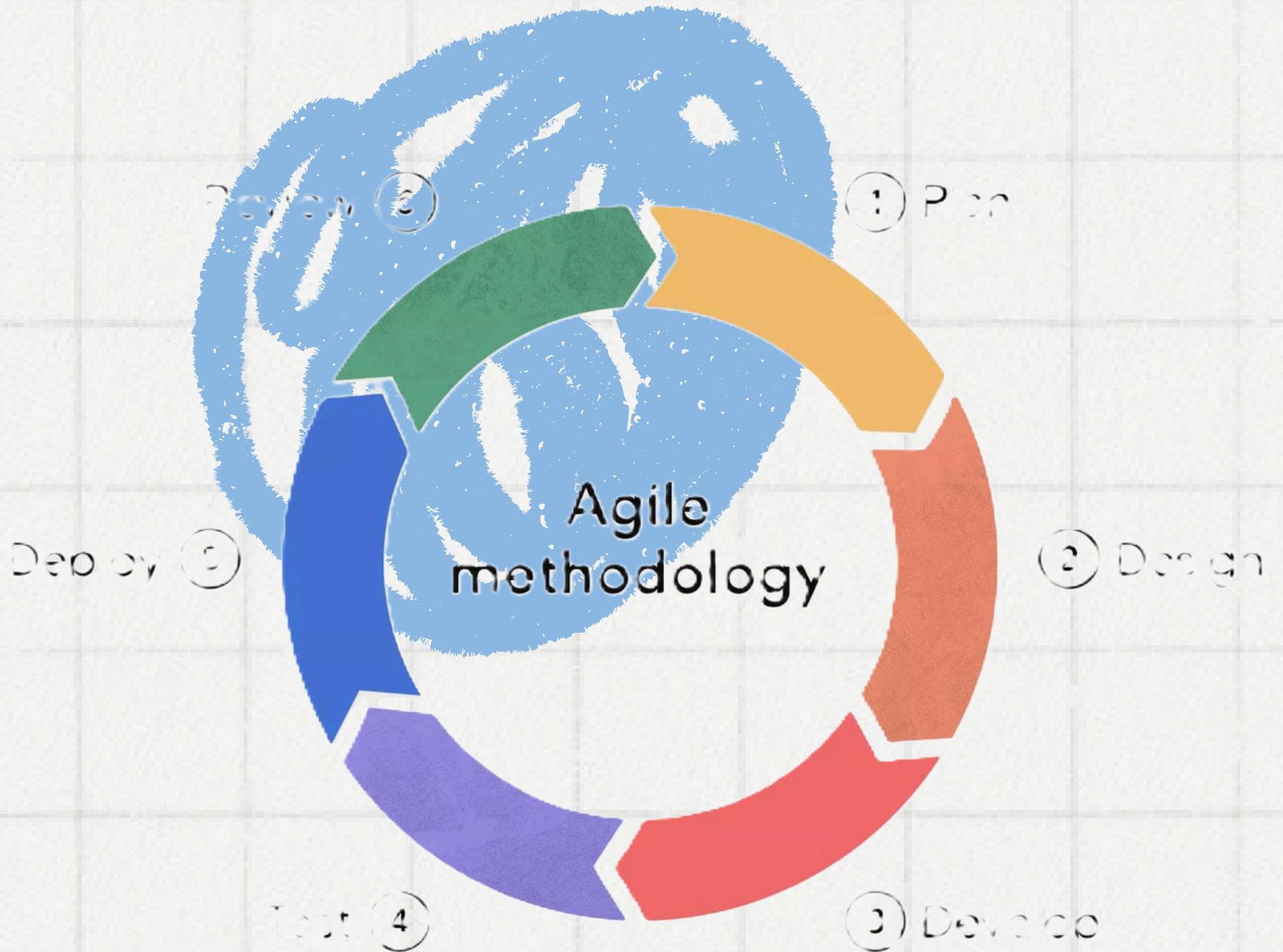
- **Advantages:** Risk-driven approach with incremental releases.
- **Challenges and Drawbacks:** Complexity in managing multiple iterations and higher costs.



Agile Model

Agile methodologies emphasize flexibility, collaboration, and iterative development. It breaks down development tasks into small increments with regular reassessment and adaptation of plans.

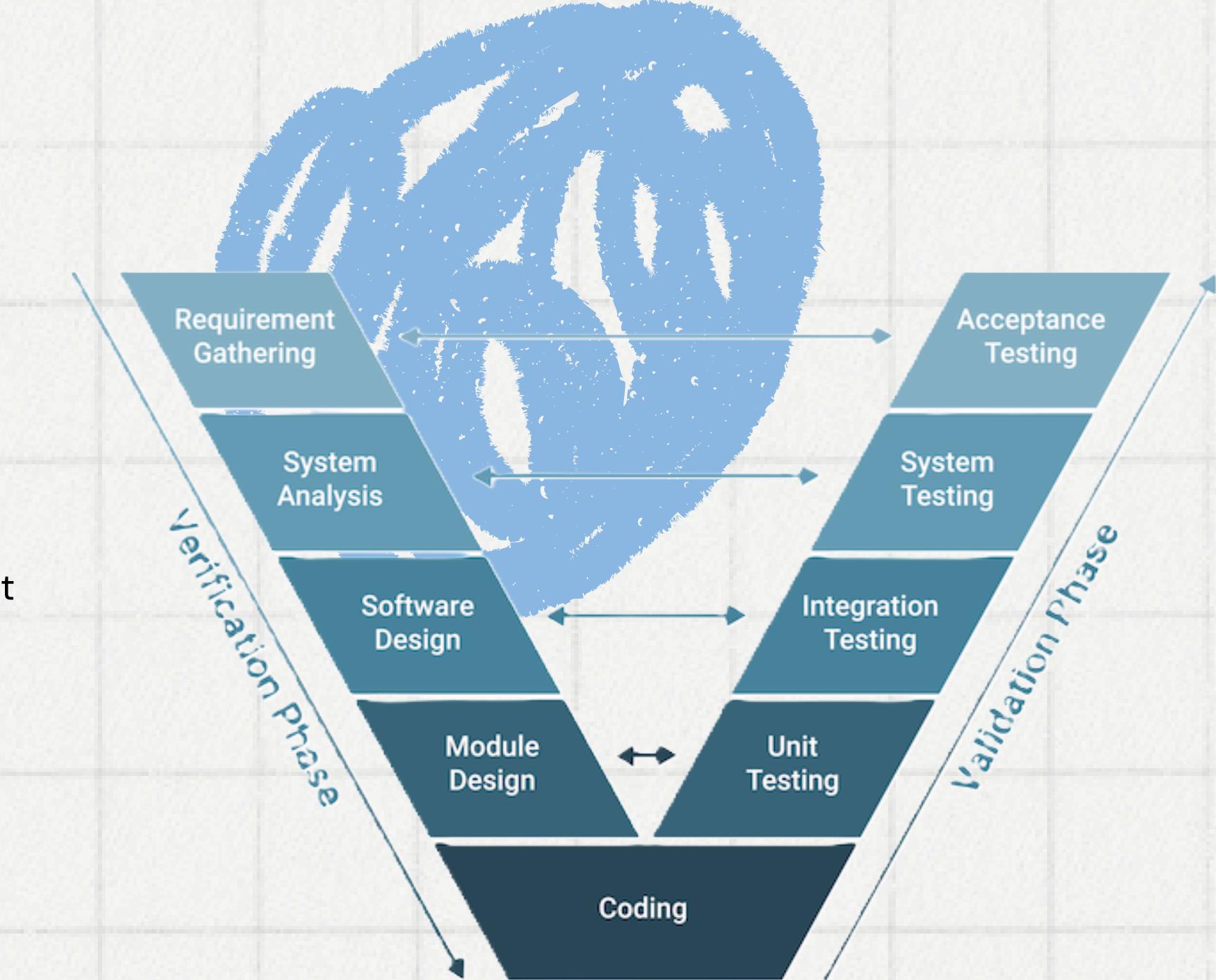
- **Advantages:** Flexibility to adapt to changing requirements and customer feedback.
- **Challenges and Drawbacks:** Requires experienced team members and can lead to scope creep without proper controls.



V-Model

The V-Model is a software development process that emphasizes the verification and validation of the product at each stage of the development lifecycle.

- **Advantages:** Ensures early detection of defects through rigorous testing aligned with each development stage.
- **Challenges and Drawbacks:** Can be rigid and less adaptable to changes in requirements; requires detailed planning and coordination across all stages.



My Perspective

Agile or Iterative models tend to be more suitable, especially in dynamic environments where requirements are likely to evolve or are not fully known upfront. These models allow for flexibility, continuous feedback, and iterative improvements, which are crucial for adapting to changes and delivering value to customers efficiently.

