



# SPIRAL MODEL

The Spiral Model was first proposed by Barry Boehm.

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# WHAT IS THE SPIRAL MODEL?



The Spiral Model is a Software Development Life Cycle (SDLC) model that provides a systematic and iterative approach to software development. In its diagrammatic representation, looks like a spiral with many loops. The exact number of loops of the spiral is unknown and can vary from project to project. Each loop of the spiral is called a phase of the software development process.



# PHASES

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1. Objectives determination and identify alternative solutions
  2. Identify and resolve Risks
  3. Develop next version of the Product
  4. Review and plan for the next Phase

**1. OBJECTIVES DEFINED**

**2. RISK ANALYSIS AND  
RESOLVING**

**3. DEVELOP THE NEXT  
VERSION OF THE PRODUCT**

**4. REVIEW AND PLAN FOR  
THE NEXT PHASE**

# KEY POINTS

- 1.The exact number of phases needed to develop the product can be varied by the project manager depending upon the project risks.
- 2.As the project manager dynamically determines the number of phases, the project manager has an important role in developing a product using the spiral model.
- 3.It is based on the idea of a spiral, with each iteration of the spiral representing a complete software development cycle, from requirements gathering and analysis to design, implementation, testing, and maintenance.

# ADVANTAGES

## 1. Risk Handling

Spiral Model is the best development model to follow due to the risk analysis and risk handling at every phase

## 3. Flexibility in Requirements

Change requests in the Requirements at a later phase can be incorporated accurately by using this model

## 5. Iterative and Incremental Approach

The Spiral Model provides an iterative and incremental approach to software development, allowing for flexibility and adaptability

## 2. Good for large projects

It is recommended to use the Spiral Model in large and complex projects.

## 4. Customer Satisfaction

Customers can see the development of the product at the early phase of the software development

## 6. Emphasis on Risk Management

The Spiral Model places a strong emphasis on risk management, which helps to minimize the impact of uncertainty

# DISADVANTAGES

## 1. Complex

The Spiral Model is much more complex than other SDLC models.

## 3. Much dependability on Risk Analysis

Without very highly experienced experts, it is going to be a failure to develop a project using this model

## 5. Time-Consuming

The Spiral Model can be time-consuming, as it requires multiple evaluations and reviews

## 2. Expensive

Spiral Model is not suitable for small projects as it is expensive

## 4. Difficulty in time management:

As the number of phases is unknown at the start of the project, time estimation is very difficult

## 6. Resource Intensive

The Spiral Model can be resource-intensive, as it requires a significant investment in planning, risk analysis, and evaluations

# WHEN TO USE

- 01 When the software project is large and complex
- 02 Frequent releases or updates are required
- 03 Prototyping is needed to understand the system better
- 04 Risk analysis and cost evaluation are critical
- 05 The project involves moderate to high risk
- 06 Requirements are unclear, evolving, or ambiguous
- 07 Changes may occur at any stage of development
- 08 Long-term commitment



AMAZON  
QUESTION



*Thank  
you!*