

THE SOFTWARE DEVELOPMENT PROCESS

SOFTWARE DEVELOPMENT MODELS – SPIRAL MODEL

SPIRAL MODEL

- The spiral model is similar to the incremental model, with more emphasis placed on risk analysis
- The spiral model has four phases: Planning, Risk Analysis, Engineering and Evaluation
- A software project repeatedly passes through these phases in iterations (called Spirals in this model)
- The baseline spiral, starting in the planning phase, requirements are gathered and risk is assessed
- Each subsequent spirals builds on the baseline spiral

PHASES OF THE SPIRAL MODEL

Planning Phase

Requirements are gathered during the planning phase

Requirements like 'BRS' that is 'Business Requirement Specifications' and 'SRS' that is 'System Requirement specifications'

PHASES OF THE SPIRAL MODEL

Planning Phase

Risk Analysis Phase

In this phase software is developed, along with testing at the end of the phase
Hence in this phase the development and testing is done

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Engineering Phase

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PHASES OF THE SPIRAL MODEL

Planning Phase

Risk Analysis Phase

Evaluation Phase

Engineering Phase

This phase allows the customer to evaluate the output of the project to date before the project continues to the next spiral

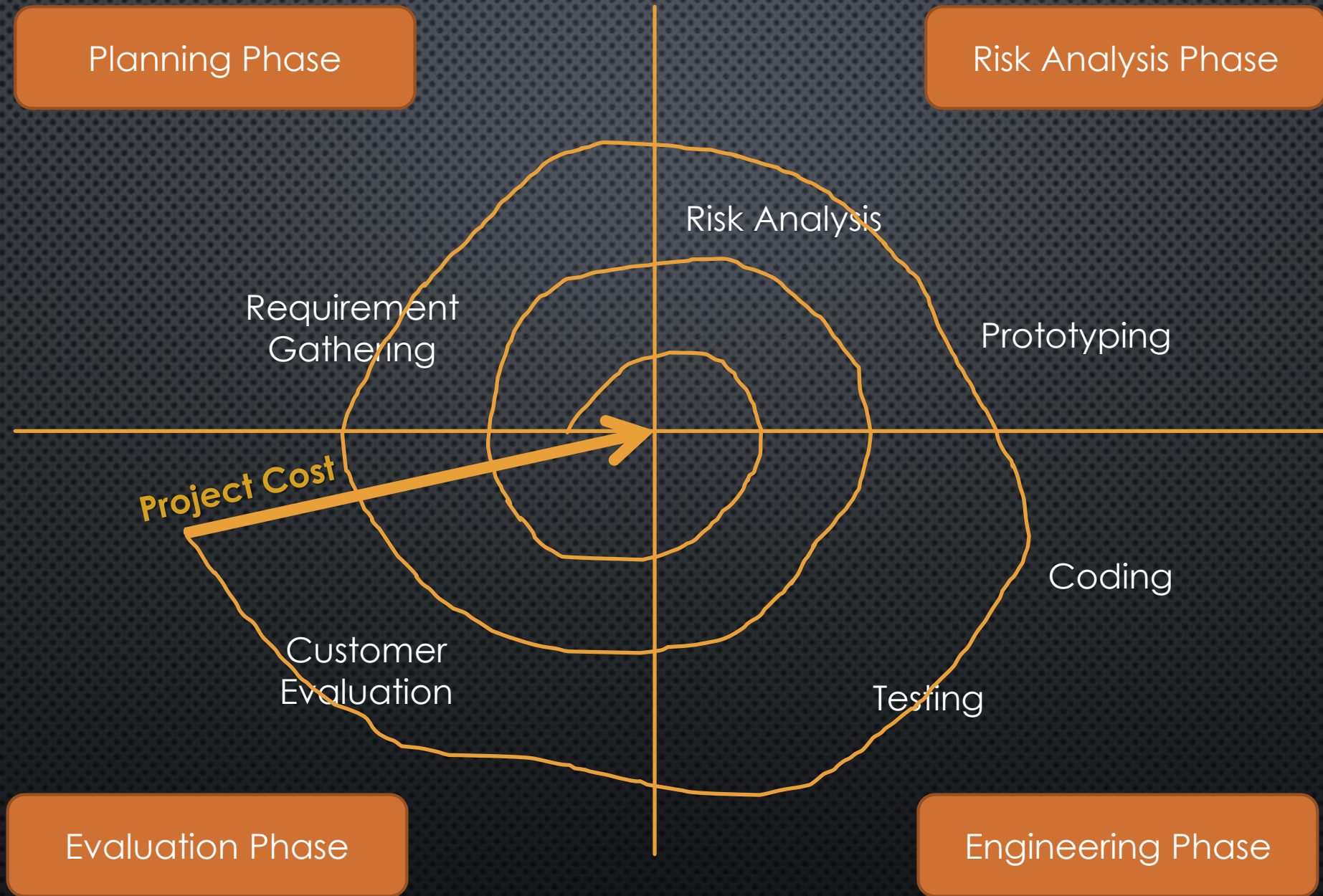
DIAGRAM OF THE SPIRAL MODEL

Planning Phase

Risk Analysis Phase

Evaluation Phase

Engineering Phase



ADVANTAGES OF THE SPIRAL MODEL

- High amount of risk analysis hence, avoidance of Risk is enhanced
- Good for large and mission-critical projects
- Strong approval and documentation control
- Additional Functionality can be added at a later date
- Software is produced early in the software life cycle

DISADVANTAGES OF THE SPIRAL MODEL

- Can be a costly model to use
- Risk analysis requires highly specific expertise
- Project's success is highly dependent on the risk analysis phase
- Doesn't work well for smaller projects

WHEN TO USE THE SPIRAL MODEL

- When costs and risk evaluation is important
- For medium to high-risk projects
- Long-term project commitment unwise because of potential changes to economic priorities
- Users are unsure of their needs
- Requirements are complex
- New product line
- Significant changes are expected (research and exploration)