SPIRAL MODEL

The spiral model is a systems development lifecycle (SDLC) method used for risk management that combines the iterative development process model with elements of the Waterfall model.

PHASES

1. **Planning**

- This phase includes the planning process, tasks, resource defining, team planning, timelines and gathering of other project related information. Planning phase includes the estimating costs, schedule for iteration. Once the planning finalizes the team proceed to the next step i.e., Risk Analysis.

2. **Risk Analysis**

- In Risk Analysis phase, the project prototype is put up for the solution. All the planning which is being planned in planning phase is proceed with the risk analysis phase to overcome the problems and risks at the beginning stage of project development. Technical and management risk are the factors that include in the risk analysis phase.

3. **Engineering and Execution**

- In this phase, the execution part is being done by engineers and developers. The planning and risk analysis once finalized is being proceed in the execution phase where all the coding, testing and deploying of software takes place.

4. **Evaluation**

- In evaluation phase, the product is being assessed by the client and provided with the revert if any changes required from client side. Evaluation phase includes all the above phases whether it is about planning, risk analysis, engineering & execution the client goes through each phase for evaluating the product or software.

Pros. of Spiral Model

- Spiral model enables the better cost estimation.
- Spiral model provides continuous and repeated development which helps in risk management.
- Spiral model provides the fast development, and the features are added in a systematic manner.
- In spiral model, client's get the opportunity to see the software/product after every cycle.
- The spiral model in SDLC is considered as the most preferable model for large and complex projects/software.

Cons of Spiral Model

There are some drawbacks which spiral model consists of:

- The spiral model is expensive due to the high level of expertise required for risk analysis. Also, the projects take time to develop that causes the overall expenses.
- Due to its high cost, the spiral model is not suited for small projects.
- The documentation process in spiral model is lengthy and hence need to be followed closely.
- Complexity is one other disadvantage in spiral model comparing to other SDLC models. The different phases and different quadrants not only result into lengthy documentation but also creates complexity.
- The overall success of the project depends on risk analysis phase.

Examples of Spiral Model

The examples of spiral model are that Microsoft used it to develop early versions of Windows. The Gantt chart software was also made using spiral model. Game development is another industry who uses spiral model to develop the games. As the gaming industry highly depend upon the early versions, at such time spiral model is a solid option. With spiral model, the game development industries can get the feedback from their customers at fast and can develop the game as per their convenient.