

Rapid Application Development

RAD model is Rapid Application Development model. It is a type of incremental model. In RAD model the components or functions are developed in parallel as if they were mini projects. The developments are time boxed, delivered and then assembled into a working prototype. This can quickly give the customer something to see and use and to provide feedback regarding the delivery and their requirements.

The phases in the rapid application development (RAD) model are:

Business modeling: The information flow is identified between various business functions.

Data modeling: Information gathered from business modeling is used to define data objects that are needed for the business.

Process modeling: Data objects defined in data modeling are converted to achieve the business information flow to achieve some specific business objective. Description are identified and created for CRUD of data objects.

Application generation: Automated tools are used to convert process models into code and the actual system.

Testing and turnover: Test new components and all the interfaces.

Advantages of the RAD model:

- Reduced development time.
- Increases reusability of components
- Quick initial reviews occur
- Encourages customer feedback
- Integration from very beginning solves a lot of integration issues.

Disadvantages of RAD model:

- Depends on strong team and individual performances for identifying business requirements.
- Only system that can be modularized can be built using RAD
- Requires highly skilled developers/designers.
- High dependency on modeling skills
- Inapplicable to cheaper projects as cost of modeling and automated code generation is very high.

Agile Methods

The Agile methodology derives from a namesake manifesto, which advanced ideas that were developed to counter the more convoluted methods that pervaded the software development world despite being notoriously inefficient and counterproductive. Promoting similar methods to Lean, the key principles of Agile are as follows:

- Satisfying customers is of foremost importance
- Develop projects with inspired contributors
- Interactions are best when done in person
- Software that works is a measure of progress
- Reflect and adapt on an ongoing basis

Additionally, the four core values of Agile are as follows:

- Individuals and interactions over processes and tools
 - Working software over comprehensive documentation
 - Customer collaboration over contract negotiation
 - Responding to change over following a plan
- Agile Project Management is one of the revolutionary methods introduced for the practice of project management. This is one of the latest project management strategies that is mainly applied to project management practice in software development. Therefore, it is best to relate agile project management to the software development process when understanding it.
 - From the inception of software development as a business, there have been a number of processes following, such as the waterfall model. With the advancement of software development, technologies and business requirements, the traditional models are not robust enough to cater the demands.
 - Therefore, more flexible software development models were required in order to address the agility of the requirements. As a result of this, the information technology community developed agile software development models.
 - 'Agile' is an umbrella term used for identifying various models used for agile development, such as Scrum. Since agile development model is different from conventional models, agile project management is a specialized area in project management.
 - There are many differences in agile development model when compared to traditional models:

- The agile model emphasizes on the fact that entire team should be a tightly integrated unit. This includes the developers, quality assurance, project management, and the customer.
- Frequent communication is one of the key factors that makes this integration possible. Therefore, daily meetings are held in order to determine the day's work and dependencies.
- Deliveries are short-term. Usually a delivery cycle ranges from one week to four weeks. These are commonly known as sprints.
- Agile project teams follow open communication techniques and tools which enable the team members (including the customer) to express their views and feedback openly and quickly. These comments are then taken into consideration when shaping the requirements and implementation of the software.

