

Software Processes

Agile Process

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Need for Rapid Software Development

- Software requirements change rapidly
- Users need to see some version of the product to concretize the requirements
- Many businesses are willing to trade off software quality and compromise on requirements to achieve faster deployment of the software that they need

Rapid Software Development Process

- The processes of specification, design, and implementation are interleaved
- No detailed system specification, and design documentation is minimized or generated automatically by the programming environment
- Emphasize the importance of writing well-structured code and investing effort in code improvement
- The system is developed in a series of versions
- End-users and other system stakeholders are involved in specifying and evaluating each version

Benefits of Agile Methods

- Overhead for maintaining the specification and design document is less
- Supports rapid changes in requirements

Agile vs. Plan-driven

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Plan-Driven Development Candidates

- It is important to have a very detailed specification and design before moving to implementation
- The system is large, requiring a large development team
- The system requires a lot of analysis before implementation
- The system lifetime is long
- The development team is distributed or part of the development is being outsourced
- All the designers and programmers are not highly skilled
- The system has to be approved by an external agency

Agile Development candidates

- Incremental delivery of the software is acceptable
- The system will be developed by small colocated team where the team members can communicate informally
- Good tools to keep track of evolving design are available
- All members of the development team are highly skilled
- Customer is willing to participate in the development process

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