



| Highlights  
Agile software development

[Techspace Home](#) | [Tech Focus](#) | [Case Study](#) | [Trend Watch](#) | [Thought Post](#)

## Tech Focus

### Agile Methodology

The term 'agile' is a philosophy and is a conceptual framework for undertaking software engineering projects. Most agile methods attempt to minimize risk by developing software in short time boxes, called iterations. Each iteration is like a miniature software project of its own, and includes all of the tasks necessary to release the mini-increment of new functionality: planning, requirements analysis, design, coding, testing, and documentation. While an iteration may not add enough functionality to warrant releasing the product, an agile software project intends to be capable of releasing new software at the end of every iteration.

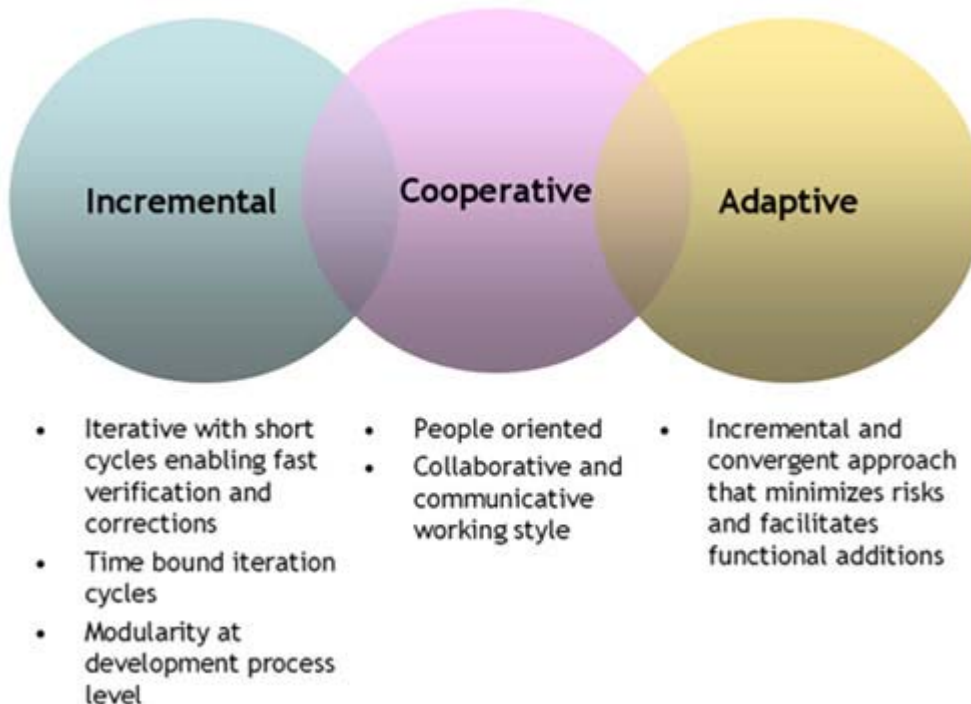
Under this broad umbrella sits many more specific approaches. Some of the well-known agile software development methods are given below.

- Extreme Programming (XP)
- Scrum
- Crystal Clear and Other Crystal Methodologies
- Feature Driven Development (FDD)
- Pragmatic Programming
- Dynamic Systems Development Method (DSDM) etc...

**"Agile is certainly not just for small companies, approximately two-thirds of large organizations working with Forrester are adopting (overtly or inadvertently) some form of Agile process for their internal application development efforts."**

**Liz Barnett,  
Forrester Research**

### Agile Methodology: Characteristics



## Overview of Specific Methodologies

Agile methods claim to place more emphasis on people, interaction, and collaboration rather than on processes, tools and plans.

The table given below highlights the distinguishing factors between different agile methods, namely;

- Extreme Programming (XP)
- Scrum
- Crystal Clear and Other Crystal Methodologies
  - Crystal Yellow
  - Crystal Orange
  - Crystal Red
- Feature Driven Development (FDD)

### Agile Methodology

### Distinguishing Factors

#### XP

- Intended for 10-12 co-located, object-oriented programmers
- Four values
- 12 highly-specified, disciplined development practices
- Minimal archival documentation
- Rapid customer and developer feedback loops

#### Crystal

- Customizable family of development methodologies for small to very large teams
- Methodology dependent on size of team and criticality of project
- Emphasis of face-to-face communication
- Consider people, interaction, community, skills, talents, and communication as first-order effects
- Start with minimal process and build up as absolutely necessary

- |              |   |
|--------------|---|
| <b>Scrum</b> | <ul style="list-style-type: none"><li>● Project management wrapper around methodology in which developer practices are defined</li><li>● 30-day sprints in which priorities are not changed</li><li>● Daily Scrum meeting of Scrum team</li><li>● Burn down chart to display progress</li></ul>   |
| <b>FDD</b>   | <ul style="list-style-type: none"><li>● Scalable to larger teams</li><li>● Highly-specified development practices</li><li>● Five sub-processes, each defined with entry and exit criteria</li><li>● Development are architectural shape, object models and sequence diagrams (UML models used throughout)</li><li>● Two-week features</li></ul> |

---

## Agile Methodology: Benefits

Recent surveys show that use of Agile methodologies is growing. For instance, enterprise project and lifecycle management solutions provider VersionOne Software recently conducted and offered its ["State of Agile Development" Survey Results](#), co-sponsored by The Agile Alliance.

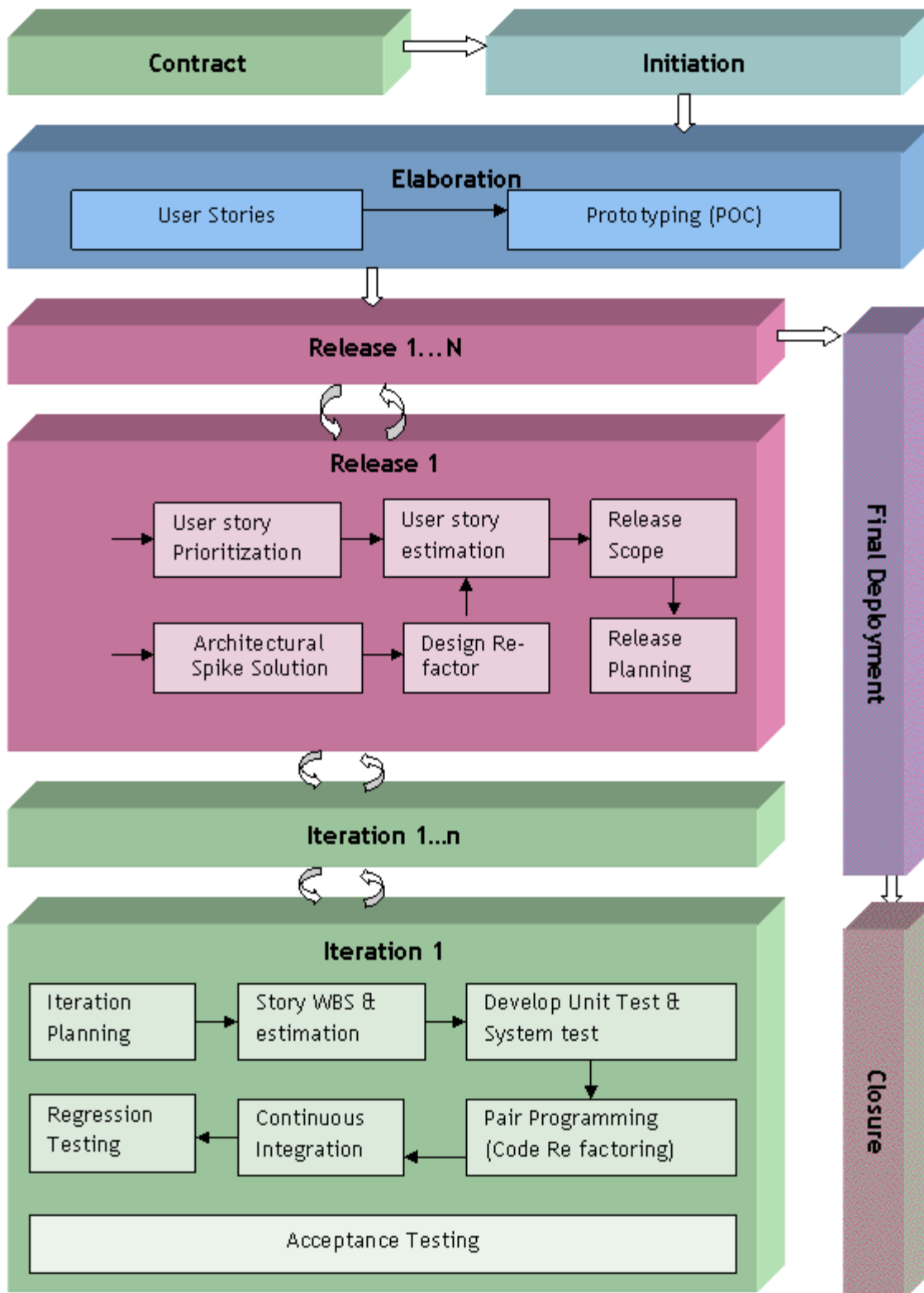
According to the survey the adoption of Agile methods in general is on the increase, and not only in number of instances of adoption but in terms of scale, too. The survey brought to light the fact that Scrum is the most implemented Agile method with 40% of the audience following it. The survey also indicates that the key reason people are adopting Agile is twofold: managing changing requirements and priorities, and accelerating time-to-market.

The survey draws attention to the following benefits that makes the adoption of agile methods so popular:

- Accelerated time-to-market by 60%-80%
- Increased productivity by 55%-85%
- Reduced software defects by 55%-85%
- Reduced the cost of production by 30%-60%

---

## Aztecsoft Agile Model



Aztecsoft focuses on product companies where time to market is a critical factor. Aztecsoft appreciates this fact and follows Agile methodology to limit a project's exposure to the forces of change. We have done several projects using Agile and delivered systems fast and helped the customers to see their ideas turned into working prototypes in accelerated timeframes.

During early days of our operation, we have completed several projects which had typical agile

characteristics like short duration, frequent drops, frequent change requests, optimized documentation, high-level of customer involvement during development etc. Though the formal agile process was unknown to the industry, Aztecsoft followed agile methodologies in number of projects.

Processes and practices at Aztecsoft that emulate the best practices of Agile methodology are as given below:

- Regular deployment of working software has always been a practice at Aztecsoft
- Incremental and iterative development models are the most commonly used life-cycle model
- Short Iterations – typically, 2 to 3 weeks
- A number of projects practice weekly builds and in many cases, daily
- Customer deliverables at the end of each iteration
- Customer reviews and feedback after each deliverable
  - Project activities get reviewed by Aztecsoft and Senior Management of the Client as a routine
- Online code reviews compensate for pair programming
- Problems brain-stormed by multiple people in the team, almost always
- Aztecsoft team functions as 'extended teams' of the Client
- Customers get actively involved in requirements, architecture/design/modeling, reviews, testing and also, project / program management
- At Aztecsoft, development is not complete unless the code is proven to be working in an "integrated environment"
  - Pre-production testing at the Client production environment is also a common practice in a number of projects
- Currently, at Aztecsoft coding is not driven based on test cases. Test cases are used as 'Verification and Validation' at the end of coding.
  - As per Aztecsoft processes and practices, test cases are developed in parallel with the design/modeling phase
- Aztecsoft standard practices are to have multiple regression test cycles before every major release to customers (the release cycles themselves are short, usually in weeks)
- Aztecsoft has well developed coding standards and code review guidelines and checklists for Java, .NET/C# and C/C++
  - Several projects also use standards agreed with the Client