

# Introduction to Agile Development

## Introduction

Agile development methodologies have been designed to address the problem of delivering high quality software on time under constantly and rapidly changing requirements and business environment. Agile development processes are characterized by extensive coding practice, intensive communication between key stakeholders, small and flexible teams and fast iterative cycles. This paper presents an introduction to agile development and giving a brief introduction to the various agile methodologies, their key characteristics and features.

## Where to use Agile Development?

Agile development methods are used in the following circumstances:

- ◆ There is no 'Requirement Freezing'. Change in requirements are acted upon.
- ◆ Incremental and iterative approach is used for modeling.
- ◆ Clients are actively take part in modeling.
- ◆ Prioritization of tasks is being done by key stakeholders and the team works on the highest priority requirement.
- ◆ Every one in the team is an active participant and everyone's input is welcome.
- ◆ The content of the model is being recognized as being more significantly important than the representation or format.

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## Where not to use Agile Development?

Agile methods are not used under the following circumstances:

- ◆ Customers have limited involvement in the development efforts.
- ◆ You have to prepare documents at each stage which would be signed off by key stakeholders.
- ◆ You hand over documents at each stage, the next team then takes care of your developing the system further.
- ◆ Case tool is used to specify the design of the software but not for generating the software.

## Advantages of Agile Development

- ◆ Shortened development cycles
- ◆ Higher stability of deliverables
- ◆ Improved utilization of resources
- ◆ Better quality of deliverables due to the involvement of the customer

## Limitations of Agile Development

- ◆ Agile development approach works well for small to medium sized teams
- ◆ Agile development methods do not scale. Due to the number of iterations involved it would be difficult to understand the current project status.
- ◆ This approach requires highly motivated and skilled individuals which would not always be existent.

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## Various Agile Development Processes

Approach	Characteristics	Features
Scrum	Small teams, Sprints 7-30 days cycles	Daily Scrums
Extreme Programming	Customer driven, Frequent Release, Pair Programming	Constant Testing
Dynamic Systems Development Method	Controlled Rapid Application Development	Use of prototyping, Several small teams (2-6 people)
Feature Driven Development	Five basic process steps, Feature-centric, Short iterations	Scalable, Combining features & object modeling
Adaptive Software Development	Adaptive organization culture, Collaborative teamwork	Component based

## About CI

CI is a global product development services organization and a partner to established technology leaders, helping them bring software products to market in less time and at reduced costs.

CI partners with clients to create dedicated delivery centers. By leveraging on its capabilities, a partnership with CI increases product quality while reducing the time to market and the operating costs.

CI has been following agile methodology for product development for the past several years. This has helped us to collaborate better internally and with the clients across multiple time zones.