

MOVEMENT COMMENCING WATERFALL TO ITERATIVE DEVELOPMENT LIKE AN AGILE

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ABSTRACT

This paper describes the remuneration of using an iterative development method like an agile opposed to a waterfall method. The research study finds numerous categories of factors on behalf of the use of iterative development method is preferable and more valuable over waterfall development method in requisites of business value, conversely there are also various comprehensible costs and confines that should be unambiguously considered by every company arrangement on introducing an iterative development method.

Key words:

SDLC, Waterfall, Agile, Iterative development, Rational Unified Process, Iterative method versus waterfall method.

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Introduction:

The Rational Unified Process (RUP) [1] is a software procedure agenda developed by Rational Software, from previous works [2], during the 1990s. Its major aspire was minimizing numerous confines of the software development practices at that time (exclusively the “traditional” waterfall model). Confines comprise the lack of premature risk management, low reprocess of general modules, low value compass reading of activities and no versioning (program families).

The adoption of iterative development practices like an agile is thought to have a positive influence on process and product quality. Customer gives his/her feedback after the completion of iteration. If customers wants to do some changing in the built in module then developer adopt the changes quickly and rebuilt the module after adopting the changes. In the iterative method like an agile work is done in different iterations. In this way iterative method like an agile overcomes and mitigates the risks of software failures and adopts the changes according to the customer demands. This research paper also describes the advantages of iterative development like an agile method.

Methodology:

This research follows a tentative approach. Data collection is consisting on semi-structured interviews among the employees concerned with a RUP execution inside an industrial association. We interviewed and questioned the people functioning on IT projects that used RUP and citizens from the business field that acted as interior customers to such project.

Iterative Approach:

It was also bring into being that the iterative environment of the software development method had an impact on the project execution control. It was bring into being that the iterations gives the project management with a minor control unit that facilitared project management to split the project implementation in minor pieces of work that could be more excellently or effectively controlled. Alleviation of risks in RUP in the premature phases improved the inevitability of the projects that used RUP. [3]

Iterative Approach as an Agile Method:

One of the main features of the iterative method like an agile approach is that it has iterations rather than phases. The output of iteration is working code that can be used to assess and react to changing and evolving user requirements. Waterfall assumes that it is feasible to have ideal understanding of the requirements from the initiate. But in software development, stakeholders often don't know what they want and can't articulate their requirements. With waterfall, development rarely delivers what the customer wants even if it is what the customer asked for.

Agile methodologies squeeze iterations. Small teams work together with stakeholders to define rapid prototypes, evidence of concepts, or other visual means to illustrate the problem to be solved. The team defines the requirements for the iteration, develops the code, and defines and runs integrated test scripts, and the users authenticate the results (See Figure 1.) Verification occurs prior in the development process than it would with waterfall, allowing stakeholders to fine-tune requirements while they're still rather easy to change.

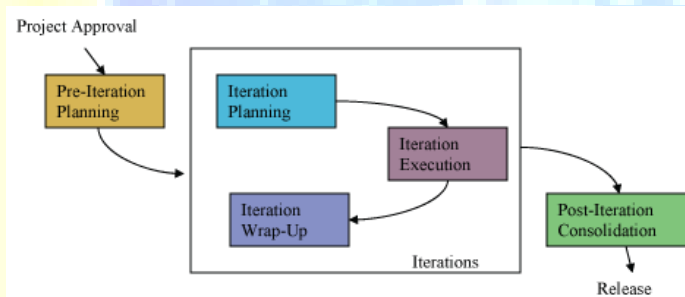


Figure 1. A generic agile development process features an initial planning stage, rapid repeats of the iteration stage, and some form of consolidation before release. [4]

Agile Model Life Cycle:

The word agile stands for 'moving rapidly'. Agile methodology has an adaptive group which is talented to respond to the changing requirements. Customer's satisfaction by quick delivery of useful software. Welcome changing requirements, even late in development. [5] Working software is delivered regularly (weeks rather than months). The most significant of the principles is customer's satisfaction by giving quick and continuous release of small and useful software. There is no conjecture between the development team and the customer, as there is face to face communication and continuous inputs from the client.

Agile Development Model

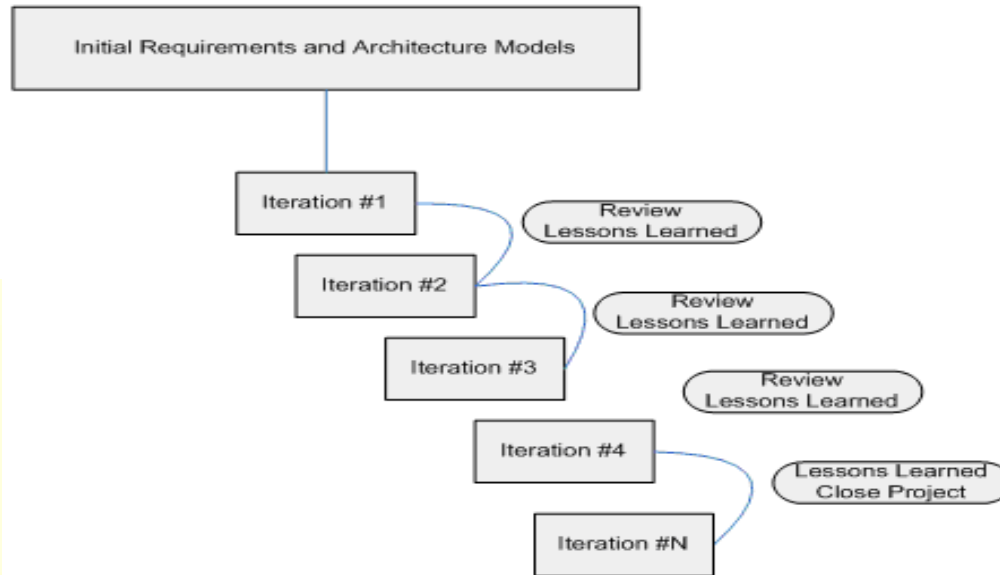


Figure 2: Agile Model Life Cycle

Adaptation of changes and mitigate risks of failure:

In the iterative method few requirements collect from the customers and built a module of software from these requirements. After the module built, this module shows to the customer as a first iteration. In this way customer gives his/her feedback after the completion of iteration. If customers want to do some changing in the built in module then developer adopts the changes quickly and rebuilt the module after adopting the changes. In the iterative method like an agile work is done in different iterations. In this way iterative method like an agile overcomes and mitigates the risks of software failures and adopts the changes according to the customer demands. In this way iterative method like an agile approach gets the satisfaction of the customers and this method involves the customers in design phase.

Advantages of iterative method like an agile:

If requirement changes regularly and smaller projects, distribute product in small period of time with trained resources then we can prefer iterative method like an agile approach. There is no conjecture between the development team and the customer, as there is face to face communication and constant inputs from the clients. Iterative method like an agile approach is

used to “increase team productivity” and to “provide project managers control above schedules and deliverables. It is proactively capable to resolve the project risks associated with the client's evolving requirements requiring careful change request management. Less time is requisite for integration as the process of integration goes on throughout the software development life cycle. The development time necessary is less due to reuse of components. It gives the customer's satisfaction by quick, continuous delivery of functional software. Working software is delivered normally (weeks rather than months). Face-to-face conversation is the best form of communication. Secure daily cooperation between business people and developers. It provides the uninterrupted attention to technical excellence and good design. It also gives the Regular alteration to changing circumstances. Even late changes in requirements are welcomed. [6]

Conclusion:

Iterative method like an agile software development stresses quick iterations, small and regular releases, and evolving requirements facilitated by straight user involvement in the development process. This research is meant at identifying the advantages and risks for the software failures.

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