Software Development Methodologies

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Abstract

 — In this paper I propose that Hybrid methods should be used over all the other methods for almost all your projects and explain you what needs to be considered when creating such a method. The paper also includes information on how important Agile methods are in reality.

Introduction

The software development methodologies

Today there are hundred and one ways of developing software because software development exists since a very long time. Worldwide most universities have a module on software development methodologies and every big organisation uses one. Software development methodologies have become an important part of almost all Software Development IT projects. Let me introduce you to some of them.

The Agile methodologies

The Agile Manifesto

The Manifesto is an announcement of will to prioritise a customisable approach to software development thus approaching a development project by focusing on the business value and the product instead of having a heavy focus on the process.

By creating business value a software developer tries to develop a product that satisfies the client, even if the procedure that he or she applies do to so, is not, completely, in accordance with the plan (Highsmith,

2002). However by concentrating on product delivery rather than the compliance to a procedure Agile practitioners tries to deliver great results in a significantly short amount of time. (Highsmith 2002).

Where are the Agile methodologies used?

They are utilized in banks, telecoms companies and other industries globally. Currently media organizations and independent software vendors are utilizing that methodology the most.

The main users of the Agile methods incorporates the followings

- IBM
- Yahoo
- Nokia
- BBC

Other organizations like Google and Hewlett-Packard uses a few parts of the method. In case there's a new of software, web app or a mobile app that you are using, it is likely that it was developed using the Agile methodology.

The Agile methodologies drawbacks

According to the 2011 CHAOS report from the Standish Group, you have 28% more chance of making a successful project using an Agile methodology over a non-Agile methodology but there are some downsides too.

The misinterpretation of the Agile methodology

It is a fact that people may misinterpret the Agile methodology by doing the Potemkin Agile. The Potemkin Agile takes place when a team carries out an Agile method nicely but fail to deliver business value. This is a form of goal removal where the team considers focusing on the process rather than delivering business value as a measure of progress.

You cannot have a fixed price Agile project

The Fixed price and the Agile philosophy do not mix; Agile projects cannot have a fixed price. However there is a solution; developers or testers can set an hourly rate

for their work. Anyways that is a major issue, but many people pass by it.

A scope creep may occur

Too many changes in the client's requirements can result in an increase in the amount of time that is necessary for the project completion, that is to say a scope creep can takes place.

The Hybrid methodologies

There are certain projects which the agile methodologies cannot meet the requirement of, thus the method need to be modified so as to satisfy the, occasionally competing, concerns of the stakeholders and the developers. Development teams make adaptations to the procedure of doing the work in order to meet their specific requirements and address the needs of their customers (Jorge Alberto Perez-Torres, Marcelo Mejia, 2005).

As software development teams goes on through projects they find and learn what works for them and constitute their practices using their findings. The resultant methodology may include some practices of methodologies like the documentation requirements of a non-Agile methodology like the Waterfall, with an Agile methodology, to create a Hybrid methodology that satisfies both the developer and the stakeholder equally.

Creating a Hybrid methodology

In order to create a proper Hybrid methodology, you should consider the following questions.

- **Project size and complexity**
  How big and complex is the project?

- **Customer availability**
  Will the customer commit to extensive involvement?

- **Customer tolerance for scope and cost changes**
  Is flexibility in budget and schedule possible and welcomed?

- **Time to market**

Is it a rapid deployment which can have a limited features set?

- **Customer preference or requirement**
  Has the customer stated his or her required methodology?

Conclusion

Where to begin

Every organization possesses its own issues and requirements. No readymade methodology can address an organization needs properly thereby teams must create their own methodologies from the available methods. This approach has the added advantage in that it will initialise the creation of the learning culture necessary for amelioration in the longer run.

The references

Highsmith, J. (2002). Agile software development ecosystems. Boston, MA, USA: Addison-Wesley Longman Publishing Co, p.150.

Alberto Perez-Torres, J. and Mejia, M. (2005). Software Development Using Agile Methodologies: An Airline Case. Washington, DC, USA: IEEE Computer Society, pp.129-135.