

Agile – A Democratic Software Development

Abstract

A team reflects on its experience in using the Agile methodology for software development. The team compares the Agile approach with the traditional software development approaches it previously used. The aim is to showcase the people aspects in Agile.

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Introduction

The traditional software development model is a conceptual model for developing software with well defined phases like Requirements gathering, Analysis and Design, Development, Testing and Quality Assurance, Maintenance and Support. Since all the phases are executed according to the plan, comprehensive planning is required from the initial stage. Also, methods and processes are devised and given importance from the beginning to enable successful execution. This makes the traditional model being prescriptive and there are more rules to follow. Also, the architecture that is developed might not scale well as envisioned initially when it comes to real world conditions which are fluid in nature.

To overcome the limitations of the traditional model, a group of software development methods based on iterative and incremental development called "Agile methods" are introduced a decade ago.

Traditional model has forgotten that

- Plans don't execute projects *but people do*.
- Exhaustive requirements don't guarantee that we delight our customers and exceed their expectations *but people do*.
- Quality doesn't get tested in, instead it gets built in *by the people*.
- Architectural models don't guarantee a sound architecture that scales well under adverse, real-world conditions *but people do*.

In a nutshell, what the traditional model missed to account are the people, the knowledge worker, the team, **in other words us!** This paper is an attempt to showcase the people aspects in Agile based software development.

What does Agile offer for the people?

Any project that truly trusts and engages its People can be defined as being Agile. Agile (from a people perspective) can be characterized as a process that:

- Elevates and engages their teams in a holistic manner. This creates an environment where the team members are brought to the same level which promotes the sense of community learning within the team.
- Allows their teams to think and respond with common sense to every project's unique requirements and challenges. This enables people

to wear a thinking hat for solving problems in hand with a focus of common sense.

- Allows their teams to decide what needs to be part of the process and how can it be adapted over time. This enables tailoring of the processes and their implementations, that works well with the team
- Creates Agile People and eventually an Agile organization
- Changes the way people are perceived or looked upon. The emphasis will be on amicability, talent, skill and communication of the people.
- Focuses on individual competence and at the same time the strength of the team
- Enhances collaboration. Some of the examples are Joint Problem Solving sessions, Whiteboard discussions to solve a problem or to demonstrate an idea to the team.

How is Agile practiced by the people?

Agility from the perspective of people can be measured by their contribution towards this iterative process which is broadly categorized as Team Agility and Developer Agility.

Team Agility:

- Ignoring traceability - It takes out so much of energy and time to maintain consistency across all the artifacts at all times especially if the project is running long in terms of man months. So, making source code as a true artifact will help the team to measure the progress effectively.
- Test Early and test often (continuously) - The team can make use of Continuous Integration practice at the earliest in the development lifecycle. This way design and integration issues can be identified earlier and resolved. This can contribute to the quality of the product also.
- Since team is given shared responsibility/ownership on the deliverables, greater cohesion and self organization among the team member is achieved.
- Team will build various functions of a product for every iteration of the development cycle. This will not only act as a true barometer but also helps stakeholders to assess the state of the product accurately.
- Constant Collaboration with Stakeholders – Trust of Stakeholders increases as the team is in constant collaboration with them via frequent product demos, review meetings etc.

Developer Agility:

- The following simple practices a developer follows while adopting Agile based software development methodology:
- Run tests – A developer will consciously run tests multiple times a day, each time a change is made to the code that is being developed.
- Avoiding Big Designs upfront – A developer will more likely let the design emerge during the course of the development. A high level design or a plan is arrived at initially and the tests can drive the design to emerge later.
- Writing Quality Code – A developer will aim to create a code that is expressive, well-tested and cohesive. Also, necessary tools that support the Agile mindset can be employed to perform this in an easier way.
- Automation – A developer will be keen to avoid repetitive mundane tasks that are executed manually as it takes time away from focusing on more important software development activities. The foremost requirement will be automating the unit tests and employing a robust Continuous Integration strategy.
- Build Bridges - A developer will share the experiences with fellow developers and help them experience what they have learned or realized during the development process. Also, the same experience can be shared with PMO to grow these ideas within and throughout software development teams.

What are the challenges of the people while practicing Agile?

This section provides a summary of challenges of the people while practicing Agile methods in their software development.

- People fear about the transparency of skill deficiencies.
- The need for developers to be a "master of all trades". This becomes difficult in bigger projects especially.
- Members are expected to express their thoughts clearly and freely. In some cases this actually a cultural or mindset shift.
- It is often difficult to constantly striving for progress and not for perfection.
- Keeping teams intact for many releases. It is often possible in an enterprise that resources are shared among various projects and keeping the same team for a longer duration is difficult.

- Apart from the team, all parties (external agencies) that are interacting with an Agile team should also be Agile.
- When the entire team is Agile and producing a quality work, the performance evaluation of the individual members becomes challenging for the management. This forces the need for Agile-compliant performance evaluation in an organization.
- Identifying and implementing the right set of features by the team.
- Understanding by the team that Agile is not a license to Constantly Change their Mind.

What is the effect of Agile on the people?

This section summarizes the real time feedback received from those people who practiced agile in their software development process.

Team feedback:

- Ability to learn from peers increased.
- Attitude towards people changed and learned to respect others views.
- Design problems were identified at an earlier stage due to collaborative efforts.
- Code quality improved significantly due to Continuous Integration and Pair Programming methods.

Stakeholders Feedback:

- Release schedules were predictable.
- Fewer un-finished features were implemented in sprints.
- Turn-around time for adding features to product were high.

Conclusion

- Agile experience that includes the environment, the organizational culture "of the people", influence one another thereby creating a community feeling.
- Agile approach is "for the people" that honors the project ecosystem.
- Agile project is built "by the people" with differing personalities and skills.

In other words, Agile is truly a "Democratic way of developing software!"

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