

The Benefits of Agile Methodology in Mobile Apps Development

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Abstract

Agile development approaches have substantially boosted the productivity and predictability of software development in practice. There are advantages of using the agile process in mobile app development. The purpose of this study is to understand how the principle of agile methodology will benefit mobile app development. This study analyzes the values of agile methods and the software use to follow those values.

Keyword: agile, mobile app development, software, manage

Introduction

To create and deliver a specific software, traditionally we used Waterfall method where it is consisting of various phases: requirement phase, design phase, implementation phase, testing phase, deployment phase, and maintenance phase (Adobe, 2022). Waterfall model promotes a very long-term development lifecycle, and it was used to develop monolithic applications instead of the microservices we have these days. This is what the issues start to develop. With waterfall, it takes a very long time to develop a particular software. These days this is not feasible as the demand for software is crazy high. Developers need to be able to change according to the market's needs. This is where agile comes in to tackle the issue. With agile, software is not created in a very long period. Instead, it will be done in multiple sprints. It will be start off with four phases: planning, implementing, testing, and reviewing phase. You will create one of the components of the software. Once you're done with that you will move on to create the next component. Similarly, you would go ahead and create the whole software. Now in this manner you're completing the software as well as providing the different components of software to the customer getting her feedback and changing accordingly. Considering in all these factors agile ability to change and adapt with the market satisfy the market's needs and do so in a very short term. All these factors combined make agile very suited for developing software these days.

What is Agile?

For organizations to write software more efficiently, it is important to help teams understand what it means to develop in an Agile way. It is a set of values and principles if you use these values and principles to make decision then you're working in an agile manner (digite, 2022). Much of the discussion around Agile must do with following different practices, using various methodologies, and even developing with specific tools. Let's discuss the value and principle that we must follow. Those agile value comes under agile manifesto. There are twelve principle that agile promote:

1. Our highest priority is to satisfy the customer through early and continuous delivery of valuable software
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. Businesspeople and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done.
6. The most efficient and effective method of conveying information to and within a development team is face to face conversation
7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
9. Continuous attention to technical excellence and good design enhances agility.
10. Simplicity-the art of maximizing the amount of work not done-is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly. (AGILE ESSENTIALS, 2022)

How agile can fit for mobile app development?

In today's world, agile methodology is one of the most widely utilized project management approaches. The advantages of the method, such as enhanced business value, shorter time to market, greater team transparency, and better-quality management, have prompted a number of companies across a variety of industries to adopt the Agile approach in their daily work processes. But how is it going to fit in the context of mobile app development? Mobile app users demand rapid change, that's why app owner should update the app to fit with the customer's needs. Agile methodology comes in to solve the problem of additional revisions. We produce software sprint by sprint with the support of Agile. Each cycle is referred to as a sprint because it resembles running over a short distance. We don't try to finish the project as rapidly as possible; instead, after each sprint, we test and check functionality to determine if it works properly. Aside from that, Agile allows us to meet more stringent deadlines. Because the software is separated into sprints, it is very easy to make modifications thanks to the Agile process in mobile app development. As a result, the development process will not be harmed, and adjustments can be made swiftly. Because revisions can take a lot of time and money when a project is virtually finished and severe problems surface, Agile methodology helps to avoid such scenarios. Users will not use an app that does not work properly or has several issues. It will result in the app's complete failure. As a result, an app can be published in stages using Agile approach, starting with a beta version to allow users to evaluate the app and report any defects they uncover. Developers can make any changes rapidly, and all risks can be controlled in a timely manner, based on it. Existing bugs will be identified as soon as they are discovered. When we build your app, you'll be able to see how we structure risk management. When a customer sees the end outcome of the development, it is unacceptable. If something fails to fulfill a customer's expectations, it will be more difficult to change the app, resulting in greater expenses and time, as well as negative feedback from the consumer. Agile technique enables the development team to always stay in touch with customers, to deliver an app to them when each sprint is completed, and to make modifications fast without disrupting development processes. In sum, the benefit of using agile methodology in mobile app development is "In-Depth Planning in Real-Time Mode, Sprint by Sprint, Quick Changes, Efficient Risk Management, and Complete Transparency" (Sharma, 2020).

Best Agile Project Management Software

According to Rachel Burger, there are 7 best agile project management software: Active Collab, Agilo For Trac, Atlassian Jira + Agile, Pivotal Tracker, Sprint Ground, Targetprocess, VersionOne (Burger, 2019). We'll go over the benefits and drawbacks of each of these seven programs so the audience can have a better vision of which one to use for their organization.

	Pros	Cons	Cost
Active Collab	Intuitive, outstanding support, iOS apps, can bill the client straight through the app, time tracking, and the ability to limit which user sees what.	Timeline and column views for tasks instead of Gantt.	<ul style="list-style-type: none"> • Self-hosted at \$499 • \$49/month for up to 15 team members
Agilo For Trac	A great communication	No ability to host more than one	€10 a month for unlimited users,

	system, responsive support team (24-hour response time), and well-priced.	project, no mobile app, and some have noted that the system is difficult to learn.	one team, one project, or €20 for unlimited users, unlimited teams, and 1 project.
Atlassian Jira + Agile	Mobile app, strong backlog management, and lots of add-ons so project managers can customize the software to their team's needs.	There are so many features that Atlassian Jira + Agile has a strong learning curve for new users and switching between apps can be a pain.	Starts at \$10/month for 10 users, scales up based on users.
Pivotal Tracker	Great specifically for Agile software development, lots of integrations (including Jira, Zendesk, and Bugzilla), supports cross-functional teams, and free for individuals and public projects.	Support can be slow for non-paying users and the system is difficult to customize.	Free for three users, 2GB of storage, and two private projects; also free for public projects, non-profits, and academic institutions. Starts at \$12.50/month for five collaborators and goes up to \$250/month for 50 collaborators.
Sprint Ground	Great for software development, encourages customer-driven product development, and has many traditional Scrum functions like burndown charts.	File storage is limited regardless of which plan you choose.	Free for three users, two projects, and 50MB of file storage. Starts at €24 a month for eight users, unlimited projects, and 1GB of storage. At the high end (for firms with more than 21 collaborators), SprintGround charges €5

			per <i>user</i> , per month.
Targetprocess	Gorgeous, unique design that's great for enterprise companies.	The company charges \$150 per hour for training on how to use their own product for "free" members (paid members get training for free).	Free for up to 1,000 entities ("entities" being anything from bugs, requests, tasks, etc). Scales up from \$20 per user per month for unlimited entities, premium support, and free training up to a custom enterprise plan (with custom pricing) for companies looking for more-secure hosting (single sign-on, private cloud, etc). The private cloud can either be hosted on-premises or in the environment provided by Targetprocess. If hosted by the client, Targetprocess charges \$220 per user, per year.
VersionOne	Easy to use, great integration systems, and good for remote teams.	Overwhelming number of features and the free version is very limited.	Free for one project and one team; scales up to \$175 a month and beyond based on users and features.

Analysis based on "7 Best Agile Project Management Software" (Burger, 2019)

For a small size organization or team works, it is recommend using AgiloForTrac as it is affordable in price and support team available 24/7. For larger size company, recommending using Targetprocess as it is user friendly and free for first 1000 users. My recommendation is

made according to personal analysis and research. Depending on a different need, each software has its own pros and cons, project manager can use this data to figure what suited their requirements.

Conclusion

Applying Agile methodology in Mobile app development will most likely help the apps less crashes and errors. Multiple cycle of testing and quality assurance helps team build better quality product. Agile can be applied to any industry and even to parts of life outside of work. As we all know that most of the organizations use agile methodology for software development and hence knowing the above frameworks will be helpful for seamless development. If you are using agile methodology for project development, then selecting the best software to support the methodology will help you to achieve your goal.

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