Adaequare Software Engineering

Software Product Development

Engineering a High Performing Product

ADAEQUARE

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Executive Summary

Ideas feed and thrive on collective consciousness. From a 'Eureka!' moment, a brainwave, a reality distortion to actually getting it across to your consumers is highly intense, creative and complex process. Using the right set of tools and processes while making appropriate decisions, can determine a product's success or failure.

Software product engineering, while creative, is also highly collaborative. To begin with, one needs to create the right group, think on what the collective goal is, and how to get there. Every member of the organization needs to be aligned with the group's thoughts and should be able to clearly articulate their role and contribution in a manner that can be measured. The purpose of this white paper is to demystify software product engineering and bring in a pragmatic approach that can help software engineering organizations realize their goals.

Introduction

Why some ideas fail while others flourish

Ideas are born in plenty but only a few breathe life while others vanish. It is not that the ones to die for are bad, but it's just that they are not always feasible. Either they are chasing the needs of the customers or are well ahead of what the customers currently need. Understanding customers' current need is critical when creating the product development roadmap. This helps organizations create maximum value by focusing their efforts on a set of features that need to be planned for development.

Managing the ideation process should be transparent and conducive. This helps organizations channel collective wisdom and create better products. Sometimes the best of the ideas could come from the most unsuspecting sources. Also, when ideas are openly exchanged and discussed, they are less prone to cognitive bias, and hence have more chances of becoming a success.

Best practices for creating industry leading software products

Using the right processes

Software product engineering is all about collaboratively planning and executing a vision. What matters is the journey that one undertakes to reach the destination. Choosing and implementing the right set of processes is extremely important. Processes that encapsulate and imbibe collaboration, creativity, transparency and measurement will help scale the resources and gain optimal velocity in product iterations.

Try to look for processes that suit your environment from an operational and cultural perspective. Software product engineering organizations have wholeheartedly embraced agile/scrum methodologies that have proved to be very effective. However, there are variants of Agile/Scrum that further enhance productivity, quality such as Test-Driven Development (TDD) and Behavior-Driven Development (BDD). These are increasingly becoming popular with software product engineering organizations.

Choose the right set of tools

Using the right set of tools is extremely important in automating the chosen process. Enabling the software product engineering processes using a highly integrated set of tools will create the right platform for executing the product vision.

There are several tools that now support Agile/Scrum methodologies and their variants. One must carefully consider the relevance and ease of implementation while selecting and implementing.

Aligning the product architecture with customer needs

Product architecture is a technical description of the current and future structure and behavior of a customer ending with the organization's core goals and strategic direction. Traditional architectures are constraining the ability of organizations to swiftly adapt to changes in the business landscape. One needs to look at the evolving landscape to determine the best architecture for the product and the ability to align with the ever-evolving needs of customers. The following are some of the key points to dwell on before finalizing the product architecture.

- Every product creates a value that is consumed by the end users. Take into consideration how effectively the product lets the users consume the value it provides.

- Products live in an ecosystem consisting of technology enablers, infrastructure providers, service/data providers and complementary product vendors. The product should easily fit into the ecosystem while letting the potential partners appropriate the value that the product creates.

- Design for flexibility- The rate at which technologies are creating new opportunities while driving new consumer behavior necessitates a design that is flexible. If the design is not flexible, you run the risk of introducing a product into the market that is obsolete to start with.

Creating the right environment

You have chosen the right set of tools and processes and you have a great team. The challenge now is how to make it all work while aligning the product development efforts with the company's vision and business goals. Software development is a highly creative and collaborative process and fostering a fertile environment where ideas breathe life, is critical.

- Adopt a start-up culture. At the end of the day, your team is a small enterprise in itself, creating value to its stakeholders.

- Have team building exercises. The more your team gets to know and trust each other, they will collaborate more openly. Create avenues for team interactions on and off the company environment. Encourage people to share their personal interests.

- Organize a hackathon once a month. Let the individuals choose a small feature/functionality that they consider adds value to the product.

- Recognize contributions – Make each individual contribute to the success of the product and recognize their contributions.

Time is of the essence

With the digital age, the first mover advantage in the market is now compounded by information freeze. When a new product is introduced, the kind of impact it makes on the collective consciousness due to the spread of information that travels at the speed of light makes it difficult for products to overcome the information freeze that has already happened. Ensure that your product releases and iterations are optimized to give the maximum mileage to the company and its consumers. Rate the features and functionality for the value they create and balance your iterations by basing them not just on functional but also on value points. Choosing the right development partner that can supplement your core team efforts in coding and testing helps you accelerate new product introductions.

About Adaequare

Established in 2001, Adaequare is a CMMI Level 3 Certified software services company specializing in product development, data and test engineering. We assist IT teams in delivering high performing solutions to the business with faster time to market and high return on investment.

With a global presence across 3 different locations, we focus on medium to large businesses and encapsulate consulting, results-driven engagement and delivery model which are important to our target customers.

We work with several companies in the USA such as CoreLogic, Tria Beauty and have been either a dedicated IT partner or a preferred IT partner. We have offshore delivery centers in India that support our customers in product development, Tier 1 and 2 support and testing with over 300+ resources.