

CX First: Digital Transformation Powered by Continuous X with PIE 4.0

Preface

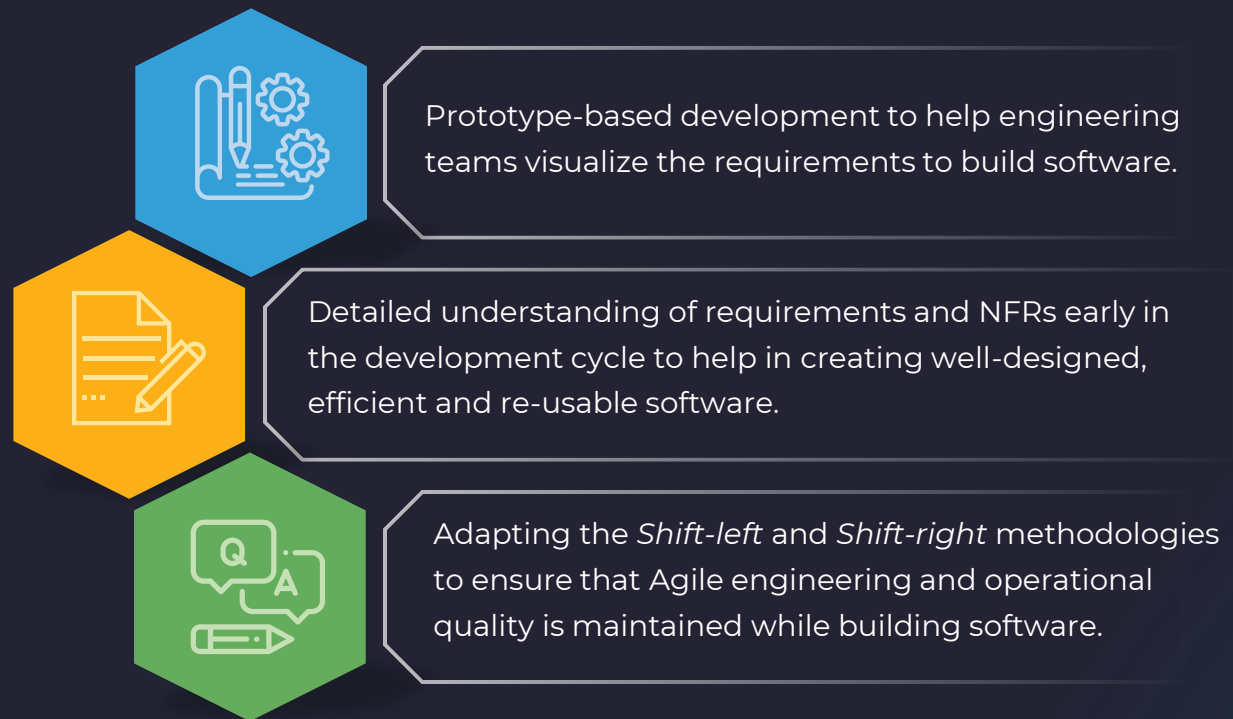
In the digital era, customer experience has become the driving force in seamless software delivery. There needs to be *continuous monitoring* to deliver value via digital capabilities. When there is a need for quick delivery and tested actions, using old methodologies like Waterfall becomes obsolete. Agile software development processes are designed to unite all the pillars of software development i.e. people, process, tools, and technologies. As software moves from left to right i.e. from requirement to deployment, systems give feedback from right to left, resulting in continuous improvement.

83% of the 13th Annual State of Agile report respondents said their organization was below a high-level of competency with agile practices.

Scope

In Cybage, teams work with the product engineering ethos to deliver products in the hands of customers at the earliest using agility-based software development.

Cybage's Process Integrated Engineering (PIE 4.0) is focused on delivering software with quality.



What is PIE 4.0, Anyway?

At Cybage, we have molded engineering operations into Agile, which has matured into a framework. Our design thinking-based approach is built on principals of balancing the four important aspects of Agile Engineering—people and culture, governance, tools and technology. It is built with a strong emphasis on leveraging tools—be it code, test cases, products, and reduction of build and deployment time. This helps us achieve the desired process-driven team culture instead of people dependent team culture.

Enterprises and ISVs are on the lookout to build software-enabled businesses that are responsive, transparent, predictable, and proactive towards finding solutions and managing change.



Instilling a Process-driven Culture

An IDC research says - Through 2023, 80% of IT organizations will accelerate software development to enable them to deploy at least weekly code updates/revisions and business value delivery.



Key Principles of Process Integrated Engineering PIE 4.0

Strengthening and aligning of the four principles of product engineering plays a crucial role in monitoring and improving KPIs, deployment frequencies, quick recovery from failure, and change failure rate monitoring. Digital transformation is successful when the products or services are -



Customer-driven – An approach to listen to the end-users to anticipate their needs to deliver enhanced and personalized products.

Customer and not competitor-centric – Complete focus on user expectations to derive constant enhancements without becoming competitor-centric.

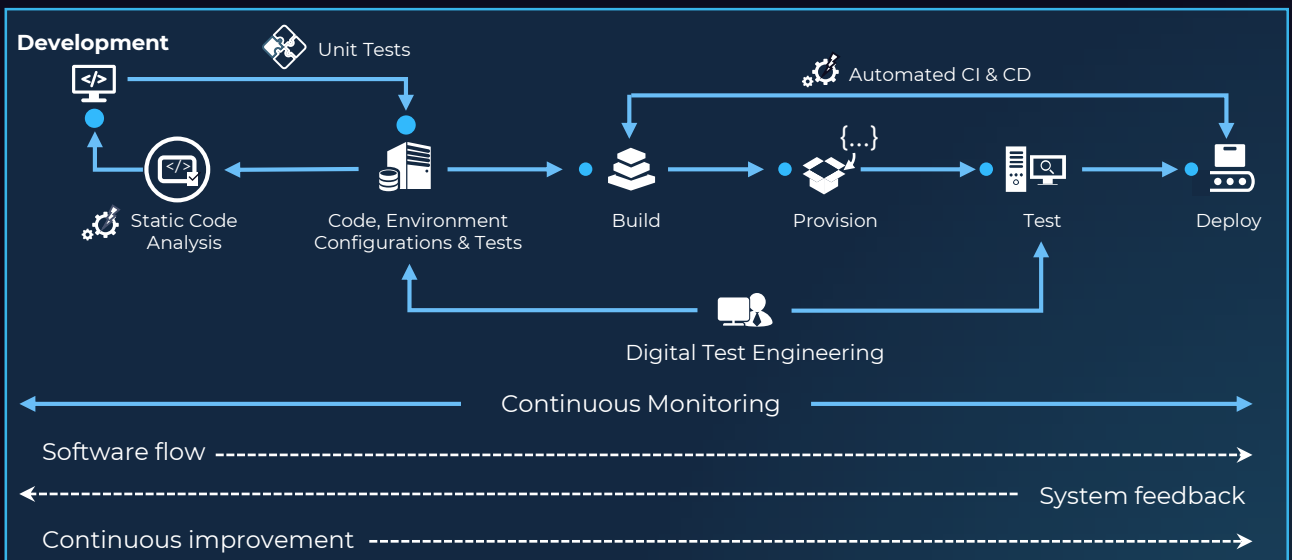
Insights-driven – Identifying customer needs by analyzing and observing feedback and use it to drive product improvement.

Continuous & Connected – Focus on speedy and continuous releases (in small batches) and derive results using customer interactions and analysis for effective results.

“By 2022, 70% of enterprises will embed intelligent automation into technology and process development, using AI based software to discover operational and experiential insights to guide innovation.” – states IDC predictions report IDC FutureScape: Worldwide Customer Experience 2020 Predictions by Alan Webber (Program VP – CX), 25th November 2019

Engineering Goal with Continuous X Approach

In PIE 4.0 continuous X software delivery process system, tools are introduced right at the beginning to help in achieving continuous feedback and continuous improvement. PIE digital test engineering ecosystem ensures that feedback is analyzed using different KPIs and decision-making methodologies like multivariate testing to attain customer feedback, analyses, and guide product teams to detect problems to be acted upon. The overall objective is to build a product for a unique value that delivers enhanced customer experience. PIE not only focuses on how software is being built, but also maintains it during production. Before going for deployment, the main objective is to evaluate performance problems, hidden issues, and other errors. Intelligent tools are integrated into the software to catch issues in time to analyze, act upon, and resolve them quickly as well as identifying which data to collect and how to evaluate it. Metrics are critical to ensure high availability and service level measurements.



Adapting a Tools-driven Development

- Focused expertise on R&D of tools, training, and building capabilities
- Go proactive and not reactive - Integrating Automated Unit testing to ensure quality checks before committing the code.
- Ensured removal of people dependency from development phase

Digital Test Engineering Ecosystem

- Well-documented test cases to ensure traceability
- Automated smoke and regression tests running after ensuring quality checks
- Automated performance and load testing on staging environments

Continuous Integration, Deployment, Monitoring Approach

- Continuous integration with gated checks for code quality
- Automated QA tests at each level of staging environment
- Build quality reports available to everyone for monitoring



The Holistic D Approach – An Infinite Loop of Discovering, Developing, Delivering, and DevOps.

Cybage has adopted the continuous test strategy where we test holistically throughout the production process – test early, often, during, and after production.

The Big Question – How to attain maturity in PIE 4.0?

- How automated are your teams? Do you have unit testing in place along with automated testing running in silos?
- Does your team practice Agile? How to get hold of the correct team?
- Is your team testing, deploying, and conducting local experiments while building software?



“Product engineering needs the right mix of technology skills and discipline; and requires a correct blend of four pillars i.e. People, Process, Tools and Technologies.”

Author

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Anjan is a product engineering thought leader having more than a decade of experience in the field of Information Technology. He has been helping technology-driven enterprises and product companies to realize the multi-fold value in their product and technology initiatives through offshore partnerships. He currently heads the Solutions and Pre-Sales functions for the Technology Vertical at Cybage.



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