The Three Ways: The Principles Underpinning DevOps

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**The Three Ways: The Principles Underpinning DevOps**

The Three Ways: The Principles Underpinning DevOps comes to us from the Phoenix Project and discusses and the role they play in DevOps. From fast left-to-right flow of work, to constant feedback from all stages in the value stream, to creating a high-trust culture that supports a dynamic, disciplined, and scientific approach to experimentation and risk-taking and designing a system of work in order to multiply the effect of new knowledge to transform local discoveries into global improvements (Kim, Humble, Debois, Willis, 2016). The Three Ways shows how the value chain works best to maximize creativity and productiveness. Some positive outcomes of the Three Ways include:

* Never passing a known defect to downstream work centers
* Never allowing local optimization to create global degradation
* Always seeking to increase flow
* Always seeking to achieve profound understanding of the system
* Understanding and responding to all customers, internal and external
* Shortening and amplifying all feedback loops
* Embedding knowledge where you need it Allocating time for the improvement of daily work
* Creating rituals that reward the team for taking risks
* Introducing faults into the system to increase resilience

# Limit Work in Process (WIP)

Work in process (WIP) limits are self-imposed by teams and organizations in order to limit the total number of work items being done at any one time. These are given as part of a Lean process and are most commonly used by team to prevent too many cards from being active at once. They are given a number which tells the team exactly how many cards can be in process without exceeding the WIP limit. The objective is to eliminate wasteful production as it does not add value to the customer, and instead approach the work with discipline, focus, and clarity which enables the team to manage capacity, encourages the practice of systems thinking, helps to identify opportunities for process improvement, and reduces the amount of slack in the system (Planview LeanKit, 2018). Some examples of waste in production are:

* Context switching
* Excess meetings
* Communication breakdowns
* Rework
* Duplicate effort
* Handoff delays
* Missed deadlines

# Eliminate Hardships and Waste in the Value Stream

In the world of DevOps, the term waste has come to mean “anything that causes delay for the customer, such as activities that can be bypassed without affecting the result.” (Kim, Humble, Debois, Willis, 2016). This means doing away with partially finished work due to change orders, or work sitting in the queue, making extra processes that doesn’t add value to the customer or adding extra features that aren’t needed by the customer or organization and that only add complexity to functionality to name just a couple. The goal is to eliminate burdens in order to achieve the goal of fast flow and to improve upon that flow through the technology value stream (Kim, Humble, Debois, Willis, 2016).

# **Enable Optimizing for Downstream Work Centers**

In order to properly optimize work for the downstream work centers, it’s vital to have empathy and understand the problems your customer has so that you can better identify and issues that may prevent fast and smooth work flow. This is done by designing for operations where operational non-functional requirements such as architecture, performance, stability, testability, configurability, and security are prioritized as much as user features (Kim, Humble, Debois, Willis, 2016). This creates a culture of fast feedback and awareness to quality by seeing problems as they occur so they can be fixed early. It also develops reliability, and safety in the technology value stream. All together the team builds new knowledge, striving for quality closer to the source, and optimizing for downstream work centers (Kim, Humble, Debois, Willis, 2016).

# **Institutionalize the Improvement of Daily Work**

When teams refuse to or aren’t able to improve their operational processes, they’re process will eventually grow worse and production will suffer even more (Kim, Humble, Debois, Willis, 2016). If daily work isn’t improved in the technology value stream, then eventually, teams will only perform workarounds to make it through the day. To improve daily work, continual improvement intervals are scheduled to allow problematic areas of code to be fixed, as well as any defects. This enable continual improvement and problems are fixed in respective control area as part of daily work. (Kim, Humble, Debois, Willis, 2016)

# Transform Local Discoveries into Global Improvements

Making new processes, best practices, and expertise known to the team or organization is paramount to advance the quality of production in the technology value stream coming from the organization (Kim, Humble, Debois, Willis, 2016). Doing this builds continuity in the organization. This mean that when anyone else does simialr work, they do with the same knowledge as anyone else in the organziation who’s done simialr work (Kim, Humble, Debois, Willis, 2016).

# Leaders Reinforce a Learning Culture

As Andrew Shafer once said: “You are either building a learning organization…or you will be losing to someone who is.” Leaders must encourage the value of learning and problem-solving. This will allow them to create situations so their team can see the value and importance in their daily work (Kim, Humble, Debois, Willis, 2016). Doing this requires a mutually interdependent relationship between the worker and the leader. This will help to create short term goals to reduce lead time in at the work center level (Kim, Humble, Debois, Willis, 2016).

References

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