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CSD380

Assignment 2.2

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Project InVersion

LinkedIn was a budding startup that scaled at a rapid rate. They started with a customer count in the thousands and grew to have over a million customers using their site a year later. The rapid growth enabled the company to succeed but also presented a challenge. The core system was architected around a monolithic application called Leo. LinkedIn outpaced Leo's capabilities during this rapid growth. Therefore, they were plagued by frequent issues and high-complexity integrations that caused production systems to crash. The engineering teams at LinkedIn were spent in 2011 after working years to keep Leo limping along.

Operation InVersion was launched just as LinkedIn landed on the public stock exchange. Normally, it is a time of flashy innovation and big project launches. Instead, Kevin Scott, the VP of Engineering, determined the best move would be to freeze innovation work in lieu of pressing forward further into the issues they were beginning to face daily. His team pressed forward to redesign Leo into a scalable solution built on modern architecture. The overhaul allowed LinkedIn to divide Leo into smaller, more manageable services. The initiative ultimately improved LinkedIn’s ability to scale by decoupling critical services and emphasizing non-functional requirements such as reliability and scalability.

Five key items stood out in the case study as to what made it a success:

* **Leadership**: Kevin took the reins and worked to address an issue that would not have been exciting nor flashy, especially at the stage of growth LinkedIn was at during this period. He prioritized the business viability over making shareholders and other leaders excited about something that may not have even been possible to materialize with the current state of the systems.
* **Long Term Vision**: InVersion was a tangible opportunity to make a lasting impact at the company. Seeing that the systems were strained and tacking the root cause allowed them to scale from around 150 services to over 750.
* **Strategic Mindset**: InVersion was risky because it could have allowed other organizations to out-innovate LinkedIn or miss out on opportunities to release flashy features to appease shareholders. InVersion enabled future success and further shareholder value through operational excellence and efficiency.
* **Team Culture Changes**: InVersion showed the underlying teams that leadership craved stable and well-tested systems. Focusing on creating stability allowed the teams to create automated testing that allowed more deployments, down from two weeks to three daily deployments.
* **Addressing Technical Debt**: Retrospectively reviewing systems and pruning unnecessary or outdated components allows organizations to continue innovation. Leo was a core application, and if it had not been successfully replaced, customers' interactions with LinkedIn could have been severely impacted.

In conclusion, LinkedIn's experience with Operation InVersion is an exemplary example of the value of addressing technical debt head-on. LinkedIn's leadership took a risk by stalling progress to enhance future ability. Their outcome was a better, more stable system, enhanced automated testing, and more space to create better solutions. This case study underscores the value of intentionally pausing, refocusing, and strategic execution, enabling a business to add more future value.

GitHub URL: <https://github.com/GeraltOfCodea/csd-380>

**References**:

Kim, G., Debois, P., Willis, J., Humble, J., Forsgren, N., & Allspaw, J. (2021). *The devops handbook: How to create world-class agility, reliability, & Security in Technology Organizations*. IT Revolution Press, LLC.