Case Study: Operation InVersion

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Assignment 2.3

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Technical debt is the cost of future rework due to prioritizing speed over long-term design. The system that LinkedIn was currently using at the time prior to 2011, Leo, was experiencing frequent deployments. This resulted in downtime and poor performance every two weeks. Operation InVersion was an initiative led by Kevin Scott who was the CV of Engineering at LinkedIn.

The Leo application was monolithic, the company tried hard to scale Leo vertically, unfortunately only deploying once every other week created a barrier of exponential growth. Kevin Scott made an executive decision to halt all feature work for two months, which effectively freeze the codebase. The engineering team was allowed to focus on the architecture and modularizing the system. This was able to improve scalability in the long run. LinkedIn had a steady growth rate of 1 million members over the span of the first year. Leo wasn’t stable enough to keep up with the demands of LinkedIn. Scott dedicated the whole department to fixing the site’s infrastructure.

With the outcome of simplification, it enabled independence of action, allowing teams to work on individual components without disrupting the system. This improved scalability, by 2015 LinkedIn had 350 million members. Operation InVersion demonstrated the importance of taking a step back to simplify and refactor complex systems. Rather than continuously adding features to a complex system and making it more robust. Simplicity amplified the ability to handle increased traffic and user growth without sacrificing performance. Scott ensured that the technical debt did not overwhelm or crush the engineering team. He knew that sooner rather than later that LinkedIn had to invest time to improve the organization. That started with the system’s infrastructure.

# References

Kim, G., Humble, J., Debois, P., & Willis, J. (2021). *The DevOps HandBook.* Portland: IT Revolution.