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Module 2.2 Assignment

The case study, “Operation InVersion at LinkedIn (2011)” from *The DevOps Handbook* focuses on the theme of “technical debt.” It tells the story of an outdated piece of software that LinkedIn was originally running off of called Leo, that was so bad that it basically became untenable and they made the decision to cease all new feature development until they could get ahold of their software infrastructure.

Some of the main points and lessons learned include:

* “Paying down technical debt” or fixing up software infrastructure that is not working or causing issues, should be a part of daily work and not an afterthought. Otherwise it becomes unmanageable and will grind the entire organization to a halt.
* Leo was not necessarily a terrible piece of software; the company became very successful while using it. It was just not scaling with the organization and meeting its new needs.
* A main complication and issue with Leo was that it was a monolithic structure with an ever increasing number of services running outside it, and that it was very infrequently deployed (only once every two weeks) because so many of those outside services existed. This is why it frequently crashed when new features were added, and the problems were difficult to diagnose and fix. This called for “heroics” like working late into the night to fix these unnecessary problems.
* The VP of Engineering, Kevin Scott, had to make a conscious decision to stop all new feature development because it got so bad. Of course that’s not what CEOs and new stockholders like to hear, but that’s how necessary it was.
* The solution of course was to break it down into many smaller and “stateless” services. They created automated systems to check for bugs and do integration testing, which reduced stress on developers and allowed for updates three times a day (a huge improvement from once every two weeks).
* This operation was essential for LinkedIn’s technological scalability. They went from 150 to 750 services.

**Source**

G. Kim, J. Humble, P. Debois & J. Willis, *The DevOps Handbook, Second Edition*. IT Revolution, 2021.