Eva Dukerschein

CSD-380 Dev Ops

6/30/2024

Module 6 Assignment 2

Blackboard is an online learning platform that is utilized by a huge number of learning institutions in the world. In 2011 Blackboard found themselves in need of a system architecture update. Their legacy code was extremely extensive and tightly coupled. The times required to build, integrate, and test were enormous with feedback taking up to thirty six hours to receive. The impacts of the legacy code impacted all facets of the business. David Ashman, Blackboard’s chief architect, created a series of graphs showing the impact that their code architecture had on developer’s productivity by pulling data from 2005. The graphs illustrated that as the lines of code in the code base increased, the number of code commits decreased. This showed that the monolithic code was increasing the difficulty of creating and submitting code updates. The graph also indicated that, should no adjustments be made, these issues would only compound and worsen.

To overcome this challenge, Ashman chose to focus on restructuring the monolithic code architecture to a microservice structure using the strangler fig pattern. The program, called Building Blocks, had developers working on separate modules that were disconnected from the monolithic code base and accessed through APIs. This allowed them to work faster and more independently from one another and eventually from the underlying monolithic code base. Over time the original code began to decrease as the modules took its place.

During the course of the Building Blocks program developers were able to be more productive and, as future graphs would show, their efficiency and effectiveness increased dramatically. The use of microservices also allowed for fewer catastrophic failures and improved lead times in updates and feedback. The Strangler Fig Pattern was crucial in allowing Blackboard to turn around their increasing technical debt and produce higher quality of work at a quicker pace allowing them to remain at the top of their industry.

Sources

Kim, G., Debois, P., Willis, J., Jez Humble, & Allspaw, J. (2021). *The DevOps handbook : how to create world-class agility, reliability, & security in technology organizations*. It Revolution Press, Llc.

‌