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Assignment 6.2 – Case Study: Strangler Fig Pattern at Blackboard Learn (2011)

This case study tells us about the challenges that Blackboard Learn was facing and how they eventually succeeded in improving their system.

Blackboard Learn had an aging architecture that went back to 1997. As the system became more complex and outdated, it was harder and harder to maintain it, introduce new features, or simply fix existing bugs without risking disruptions to existing services.

After realizing that all their problems come from the system being too complex and highly coupled, their chief architect David Ashman decided to apply a Strangler Fig Pattern to try and solve the issues. This pattern is designed to incrementally replace parts of legacy system by building new system around the existing one, and eventually replacing it.

Blackboard Learn created “Building Blocks”, which simply separated some functionality from the main codebase into separate building blocks, where the developers could experiment and write code without the fear that it could lead to a major catastrophe that impacted the whole system. This approach led to an exponential growth of the amount of code commits. These new components were first built around the old ones, and then gradually replaced them, leading to an improved system that didn’t affect user experience.

The benefits of the Strangler Fig Pattern in this case study are obvious:

The system became less complex. Highly coupled architecture transformed into a system of microservices. The developers became much more productive. The overall risk of failure went down. New features were released more often, and the transition from the old system to the new system didn’t pose any down time. Strangler Fig Pattern is a very powerful design pattern that can bring old and complex systems back to life safely and effectively.

Reference list:

<https://learn.microsoft.com/en-us/azure/architecture/patterns/strangler-fig>

The DevOps Handbook by Gene Kim, Jez Humble, Patrick Debois, John Willis