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Module 6.2

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Strangler Pattern at Blackboard Learn (2011) Summary

In 2011, Blackboard Learn was faced with challenges in regards to its monolithic application architecture. This type of architecture caused issues in scalability, maintainability, and deployment speed within the Blackboard company. Their legacy codebase had become difficult to manage, and frequent changes or updates risked system stability. In order to address these increasing issues, Blackboard adopted the Strangler Pattern. The Strangler Application Pattern is a software architecture approach that is used to incrementally replace a legacy system with a new one, minimizing risk and downtime. This pattern involves gradually replacing parts of the old system until it is entirely superseded and replaced with the newer system. The process is implemented in three steps: transform, co-exist, and eliminate. Rather than rewriting the entire application at once, which comes with increased risk, they isolated parts of the monolith and gradually replaced them with new services or components. This type of transition helped Blackboard improve their development speeds, system reliability, and team autonomy.

Lessons Learned:

- Large rewrites are risky: Trying to rebuild large systems from scratch is risky and does not always result in the most desirable outcome. The Strangler Pattern offers a safer alternative.
- Start small: Early wins build confidence and reduce complexity.
- Continuous integration and delivery are critical: Automation ensures that small, frequent changes can be made reliably.
- Monitoring and observability is essential: Receiving feedback in real time is essential for confidence during incremental transitions.

Resources:

The DevOps Handbook: How to Create World-Class Agility, Reliability, & Security in Technology Organizations Second Edition; Gene Kim, Jez Humble, Patrick Debois, John Willis, & John Allspaw; IT Revolution Press; 2016

https://www.youtube.com/watch?v=SSmixnMpsI4

https://www.geeksforgeeks.org/strangler-pattern-in-micro-services-system-design/