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Module 6.2

June 29, 2024

CSD 380 - Professor Sampson

### **Case Study Summary: Strangler Pattern at Blackboard Learn (2011)**

**Background:** Blackboard Inc., a leader in educational technology, faced challenges with their Learn product, which had a legacy codebase from 1997. By 2011, this old system had become very complex, making it difficult and time-consuming for developers to integrate and test new code. The build and integration process was slow, taking up to 36 hours for feedback, and productivity was decreasing as a result.

**Problems Identified:**

The number of code commits was decreasing while the lines of code increased. Integration and testing processes were increasingly complex and error-prone. Developers faced long lead times and declining outcomes for customers.

**Solution:** In 2012, the chief architect, David Ashman, initiated a project to re-architect the code using the strangler pattern. They introduced "Building Blocks," separate modules that were decoupled from the monolithic codebase and accessed through fixed APIs. This allowed developers to work more independently without needing constant coordination.

**Results:**

The size of the monolithic codebase decreased as code was moved to the Building Blocks modules. Developers preferred working in the Building Blocks codebase due to greater autonomy and safety. The number of code commits increased exponentially in the new codebase, indicating improved productivity. Mistakes were localized, reducing the risk of major system failures. Developers received faster and better feedback, improving the overall quality of the product.

**Conclusion:** The case study demonstrates the importance of architecture in determining how effectively code can be tested and deployed. It highlights the need to migrate safely from outdated architectures to new ones, using techniques like the strangler pattern to incrementally adapt to the organization's needs.

Reference:

Kim, G., Humble, J., Debois, P., & Willis, J. (2016). The DevOps Handbook: How to create world-class agility, reliability, & security in technology organizations. IT Revolution Press.