Typemock™
The Unit Testing Company

fiserv.

CORILLIAN INCREASES TESTS BY 500% WITH TYPEMOCK.NET

INDUSTRY
Financial services

CHALLENGES

- Ensure that the code quality stays high

- Facilitate the adoption of quality development practices

RESULTS

Number of tests increased by
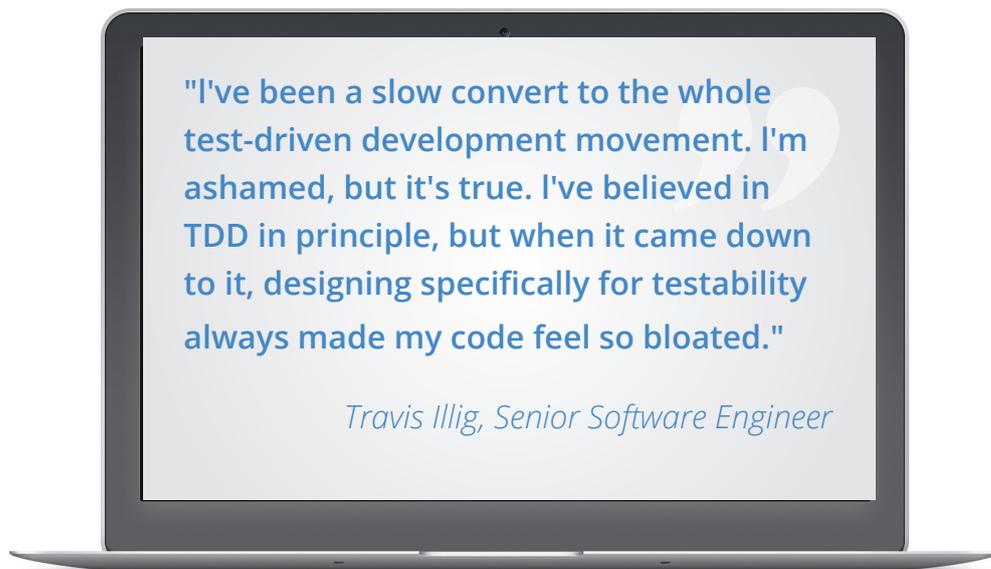**500%**

Test coverage increased by
50%

Tests are
25%
faster to write

More
members of the team adopted unit-testing practices

BUSINESS

The original implementation was with Corillian which was purchased by Fiserv and Typemock is now implemented throughout Fiserv. Corillian Corporation (www.corillian.com) is the market-leading provider of online banking, payment and security solutions for the financial services industry. It has been in business since 1997 and currently supports over 25% of the online banking users in the US. The company provides secure online banking and payment solutions to some of the largest and most innovative financial institutions in the country. Corillian's applications enable financial institutions to deliver industry-leading online banking services to its customers which helps drive increased revenues, margins and customer loyalty.

For Corillian, higher quality software at a lower total cost enables its customers to launch new products and services to market faster while achieving their desired ROI. This translates into better business for Corillian. This is the main reason why the quality of their software code is of paramount importance to Corillian's developers.

> "I've been a slow convert to the whole test-driven development movement. I'm ashamed, but it's true. I've believed in TDD in principle, but when it came down to it, designing specifically for testability always made my code feel so bloated."
>
> *Travis Illig, Senior Software Engineer*

CODE QUALITY CHALLENGE

The benefits of testing software early on in the development process are many and well known. Since the costs of finding defects grow exponentially with time, the earlier they are found, the better the code and the higher the costs savings. This is why it is so important to test software as close as possible to code implementation.

"We started looking at mock frameworks because much of our code and its behavior are predicated on having several configuration files in place," says Travis Illig, Senior Software Engineer for Corillian. *"Being able to test how things will function without having to actually set up the myriad configuration files is extremely valuable. That was the impetus for us to start looking at mocking, but after we started using some of the other mock frameworks, we started wanting to do more than just mock the configuration. We wanted to start mocking communication with Voyager (Corillian's online banking platform) and other systems as well. As we got further into it, we started running into shortcomings of the other frameworks that started impacting the design of the product - we stopped designing an API and started designing for testability. ...For us, the additional API clutter was unacceptable"*.

**"It works exactly as advertised.
It's letting us test things faster and easier than we could before."**

Scott Hanselman, Chief Architect, Corillian.

IMPLEMENTING TYPEMOCK.NET

Corillian embraced TypeMock.NET wholeheartedly and enthusiastically, as it provides its developers with a smart easy-to-use tool for unit- testing code.

Within two months since it was first adopted, the number of tests increased by 500%, test coverage increased by 50%, and tests are 25% faster to write. These numbers are indeed impressive, and the learning curve to get there is not steep!

TypeMock.NET enables Corillian to conduct automated unit testing of software easily and thoroughly. It has helped the company maintain the high quality of its products and services. Tests are run continuously, providing team and management with an up to-the-minute view of the quality of the software.

"TypeMock has allowed us to expand the reach of our testing to include edge cases that would be extremely difficult (if not impossible) to duplicate with traditional means."
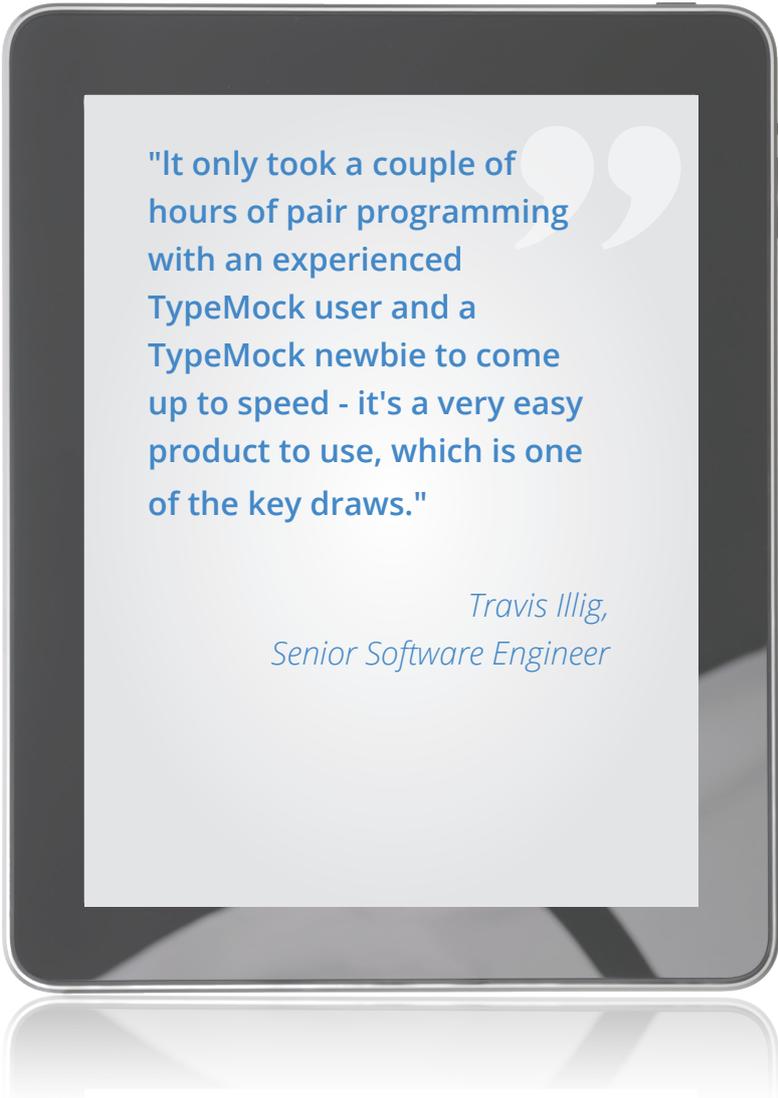
Matt Burton, Senior Development Engineer

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"The key benefit we get from TypeMock," says Travis, *"is having the ability to fully unit-test the code without impacting the API design. That generally 'goes with the territory' in a standard test-driven scenario ... For us, the API is part of the deliverable. We need to make it fairly easy to consume and can't have the architecture of the solution overshadow the usability of the API. TypeMock lets us have our cake and eat it, too - we can design a usable API and mock anything we want: private, static, etc."*

RESULTS

TypeMock fits in seamlessly with virtually any application development process by integrating with unit testing tools (nUnit, mbUnit and Visual Studio), code coverage tools (NCover, Clover.NET, Visual Studio, CoverageEye, DevPartner), unit test runners (Visual Studio, TestDriven.NET, MailFrame TestRunnner, Resharper), profilers (Visual Studio, dotTrace, AQTime), and build servers (msBuild, Nant CC.NET, VS Build Server).

Amazing flexibility and the simplicity with which TypeMock's operation tests any scenario makes it a must in today's test driven development.

"It only took a couple of hours of pair programming with an experienced TypeMock user and a TypeMock newbie to come up to speed - it's a very easy product to use, which is one of the key draws."

Travis Illig,
Senior Software Engineer

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"There are now nearly 600 unit tests with more added every day. Comparatively, at the beginning of the project there were less than 100 tests."

Matt Burton,
Senior Development Engineer

"While not all members of the team are practicing textbook TDD", says Matt Burton, Senior Development Engineer for Corillian "The team as a whole places a great deal of value in creating highly effective, comprehensive unit tests for the product, and needless to say a lot of that sentiment has been facilitated by our adoption of TypeMock."

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