Apple interns back in *Oz*

While most Australian university students were finishing up their semesters and dreaming of the beach late last year, three keen Mac developers were packing their bags to get ready for the trip of a lifetime.

Over the next three months, they would live, work, eat and play alongside the best of Apple's developers as part of a three-month internship based out of Apple headquarters in Cupertino, California.

During their time in Cupertino, the three students – Wade Tregaskis from La Trobe University, Brett Brooks from Central Queensland University, and Ashley Butterworth from the University of NSW – each worked on a variety of development projects related to their own interests.

All three were among the first to get a hands-on look at the new Intel-based Macs, which at that point were still several months from being released. Better still, much of their work related to helping the effort to convert Apple's entire internal tool set to support the new environment.

Wade, for one, got involved with the maintenance of an internal Apple development framework and helped port a number of third-party open source applications to the new Intel architecture. Working with a group of a half-dozen other interns, he also spent time rejigging internal tools, adding new features – and learning all the while.

"It was cool," he recalls. "I could go in and look at things and say "so that's how they do that!'". I got to answer those questions that had been bugging me for years."

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Brett's experience was equally revelatory. After realising that he had some very good Cocoa experience, Brett's supervisor scrapped his initial assignment – porting a range of code to the Intel systems – and instead set him on the task of developing a Cocoa interface for an internal Apple application that technical support people use to author and publish Tech Notes.

The application was built around a convoluted, proprietary tag structure that Brett worked hard to decipher. He then built a translator to convert these tags into HTML using extensive PHP scripting. After weeks of largely unsupervised work, Brett delivered the final product: a polished, Cocoa-based standalone application that would let support people author and publish Tech Notes from anywhere they happened to be. Finishing touches, such as a built-in preview mode and easy editing, improved upon the original application and earned kudos from the Apple supervising developers.

"We were pretty happy with the application in the end," Brett recalls. "I learned a lot as far as integrating with things like PHP, which was pretty new to me. They threw me in the deep end from the beginning, and it was an awesome experience; I expected it to be good, but it exceeded my expectations."

Ashley was equally rapt about his internship, the tone of which was set when the boys were let loose on the new Intel-based Macs on their first day at the Apple site. Building on his extensive interest in embedded systems, Ashley soon found his pace within the section responsible for Core Audio development. His work involved the testing and debugging of APIs and low-level drivers that provide interfaces between Core Audio and the system hardware.

One of the products of Ashley's time at Apple was a new testing tool that had been partly developed by an Apple developer but remained incomplete. He "put a nice Cocoa GUI on it and added a lot more functionality" to produce a tool that is now used to test the new APIs as they are developed and debugged. He also "got a bit of code" in the Apple FireWire driver after noticing some API calls that remained unimplemented.

"Being Apple, everybody's on a tight deadline and nobody's not busy," Ashley says. "But they're pretty laid back about how they work, and it's certainly a very enjoyable environment. It's amazing looking through all that code because you can see the tricks they use to make it more efficient and cleaner looking. It changed my coding style slightly, in terms of efficiency and layout to make it much more readable. The whole experience was amazing."