Damien Deville

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Seasoned engineering leader with deep technical expertise working across Platform and Product. Passionate about designing and implementing the systems and software that form the technical foundations of solid and fast growing engineering organizations.

Experience

Dropbox, San Francisco, CA – Sep 2014 - Present

Principal Engineer, Developer Productivity – Feb 2020 - Present

Area Tech Lead for Developer Productivity.

My area includes the Developer Infrastructure group that builds developer tools, systems and services used by all engineers at Dropbox, the Client Platform group that provides frameworks and libraries used by Dropbox engineers to develop software on Desktop, Web and Mobile, and the Production Engineering group that handles the release and monitoring of software shipped by Dropbox engineers.

The particular challenge at this point in time is the switch from a very monolithic and very infra driven engineering culture, where developer tools and frameworks were hand-crafted for our very specific use cases and needs, towards a multi-product engineering organization that needs to iterate quickly and might be relying on very distinct technological stacks.
My team is responsible for making developer experience in this environment as great as it can be and ensure that engineers can build products quickly and easily while keeping the high quality and meeting the security bar that Dropbox is known for.

Staff Engineer, Client Platform – Dec 2016 - Feb 2020

Tech Lead for Desktop Platform.

I led a project to migrate the desktop client (~1M LOC) from Python 2 to 3. It was particularly challenging since it required incrementally and transparently updating the core component that boots and runs the client on ~100M client machines across the world running extremely diverse configurations and environments (see blog post and PyCon talk below for how this was achieved).

Started and led a team that worked on a foundational SDK for all internal client products at Dropbox across desktop, mobile and web. Among other libraries handling things such as analytics, logging and experimentation, we built a monitoring library (written in Rust) capable of reporting and pre-aggregating real-time metrics from dozens of millions of active desktop clients. This SDK became the foundation for Dropbox multi-product story on clients.

I led the adoption of Bazel for the desktop client build (and tests). The desktop client is a large heterogeneous codebase written in Python, Rust, TypeScript, C++ and Objective-C that targets Windows, MacOS and Linux. It previously used to use a very ad-hoc set of build scripts that were complex to work with. As we started writing more logic in Rust, compile times became a big problem and the move to Bazel (and reproducible builds) allowed us to benefit from remote caching and scale our build for the future generation of Dropbox engineers.

Software Engineer, Client Sync – Sep 2014 - Dec 2016

Tech Lead for Smart Sync (originally known as Project Infinite).

I was responsible for designing, implementing, releasing and maintaining the kernel extension and user space daemons that backed the Smart Sync feature on MacOS starting with 10.9 Mavericks.
I'm extremely proud to have shipped a stable, secure and performant kext to millions of MacOS systems without causing any system instabilities to our users. In order to achieve this I also built an in-kernel fault injection framework that was used through an extensive stress test suite for various file system operations.

For my first few months, I worked on Dropbox's photo application, Carousel, focusing on iOS and the cross-platform C++ libraries. Among other things, I re-architected the iOS application to be easier to maintain across iOS versions and transformed it into a universal app that targeted iPhone and iPad.

Realmac Software, Brighton, UK – Aug 2011 - Sep 2014

Software Engineer

Lead engineer on the Ember for Mac and iOS project.
I took ownership of the LittleSnapper for Mac project and led development of its reborn as Ember, an award-winning, modern, sandboxed, concurrent, modular and cross-platform application.
The main challenges were a heavy use of Core Data in a highly concurrent environment, an extensive separation of concerns and privilege between processes, services and frameworks in the application group and ensuring code portability, particularly with respect to document format and image editing.

Imano, London, UK – Mar 2010 - Aug 2011

Software Engineer

Main engineer on the TVGuide UK for iPhone and iPad project (around 2M users).
I also worked on the development of iOS apps from initial concepts through to final delivery for clients such as Citibank, Conde Nast, UEFA, DSNY, Harrods and Stella Artois.

Education

M.Sc Computer Science; University College London, UK – 2009
Dissertation: On Percolation Theory for Agent-Based Financial Modeling

M.Sc Financial Engineering; Birkbeck College, London, UK – 2009
Dissertation: On Numerical Methods for the Pricing of Commodity Spread Options

Laurea Magistrale in Economics and Finance; Università Politecnica delle Marche, Italy – 2008
Thesis: On Lévy Processes for Option Pricing: Numerical Methods & Calibration