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BEN HOYT'S CV / RESUME

Intro: I currently work for [Brush Technology](#) in Christchurch, New Zealand. So I'm not looking for a job at the moment, but feel free to [get in touch](#) if you need a software project done.

SUMMARY

I'm a software engineer with ten years of experience designing and developing web applications and embedded firmware. I'm fluent in Python, C, C++, Objective-C, SQL, HTML, x86 assembly, and English. I learn quickly, care about detail, and love computers and mathematics.

SKILLS: WHAT I DO...

- Develop **web applications** that perform well and are easy to use. I've used various languages and databases, and I'm experienced with the scaling and caching required for large-scale websites.
- Create **native iOS apps** for iPhone and iPad devices. I'm familiar with all aspects of app development from design to code to the App Store.
- Develop **embedded firmware** for data loggers, control systems, and other electronic devices, using 16-bit and 32-bit microcontrollers. I'm familiar with many comms protocols, such as CAN, J1939, SPI, and IP.
- Write **desktop tools** and automated test software.
- Administer **web servers** and networking tools on Windows or Linux.
- **Manage small teams** of engineers and oversee product development.
- **Communicate and document** effectively and relate well to people. I also design, write specifications for, and manage projects.

EXPERIENCE

[Oyster.com](#) – Software Engineer and Manager – June 2010 to May 2012:

- Managed a team of five software engineers and oversaw architecture decisions for software projects. Supervised the datacenter's server and database configuration. Managed the hiring of new software engineers.
- Co-developed Oyster.com's photo-rich [iPad app](#), including the app's Objective-C codebase and its API backend.

I have also discovered a truly marvelous proof of Hofstadter's Law, but unfortunately this margin is too narrow to contain it.

- Implemented the backend for [Oyster Shots](#), a tag-based photo search engine and filtering system for Oyster's 750,000 hotel photos. [More info.](#)
- Ported the entire C++ web backend (which produced static HTML pages) to Python (which renders all pages dynamically). This allowed us to develop and release business-level features much more quickly.
- Wrote code and tools to internationalize and localize the entire website, including automatic translation of hotel reviews via translation APIs.
- Implemented a personalization system to recommend hotels and articles a user might like, based on an "interests profile" generated for them.
- Designed and implemented a user accounts system, enabling users to save hotels, invite friends, add rate alerts, and review their bookings.
- Wrote much of the site's hotel booking system (turned off late 2011 for business reasons), including secure credit card and payment handling.

[Brush Technology](#) – Software Engineer and Co-director – August 2006 to now (with a two-year hiatus while at Oyster.com):

- Co-founded and designed the [microPledge](#) crowd funding website, and developed about a third of its codebase (in Python and PostgreSQL). microPledge implements secure financial transactions, advanced Ajax-based voting, and it scales to thousands of campaigns and users.
- Designed, implemented, and promoted [Gifty Weddings](#), a website that helps couples make great wedding gift registries.
- Wrote embedded firmware in C++ for [Hamilton Jet's](#) large-scale jetboat control systems. Wrote testing and GUI tools in Python and C#.
- Worked on cellular telemetry firmware and GPS interfacing using 8-bit and ARM7 micros for [Baycity Technologies](#) and [ILR](#).
- Developed low-latency IP networking software in C and Python for the high-frequency trading industry.
- Co-authored several small [open source projects](#) including a Python-based build tool and a row-object mapper for web.py. Wrote articles for our [programming blog](#), for example, on [Knuth](#), [protothreads](#), and [bloatware](#).
- Managed projects and staff. As a cofounder, I'm also heavily involved with the company's business planning and decisions.

[Harvest Electronics](#) – Software Engineer – October 2002 to July 2006:

- Designed and developed the [web and admin interface](#) for their solar-powered weather stations – the clean UI and weather graphs really made Harvest's product stand out. Wrote software to interface to the GPRS

modems and administered associated databases and web servers.

- Wrote embedded firmware in C and assembler for MSP430 and ARM7 micros, including low-level boot loaders, serial and radio comms, digital audio, and I/O control logic.
- Developed various network and serial comms tools in C, C++, and Python. Worked heavily with the Win32 API.

EDUCATION

I have a B.E. in electrical and computer engineering, and graduated from the [University of Canterbury](#) in 2002 with first class honors, [GPA 7.9/9](#). For my final-year project I designed a small stack-based CPU in VHDL.

ABOUT ME

My dad taught me how to program by teaching me the Tao of [Forth](#). Two of my first projects were writing a Forth compiler in x86 assembly, and then writing a small 32-bit OS in my Forth. I love things small, fast, and light – and that's paid off, especially in my embedded work.

Other than that, I enjoy reading and [writing](#), and I edited and designed a [small-scale magazine](#). I'm into unicycling, typography, and piano. I love my wife and family. I aim to keep the commandments, but you may find me breaking the conventions.

REFERENCES

Below are a few people I've had the pleasure of working with. Please let me know if you need more specific contact details.

- Mike Cirello, previously engineering manager at Oyster.com. Now co-director of [Silver Living](#).
- Michael Hope, software engineer who led the software team at Hamilton Jet. Now director of [Seabright Technology](#).
- Peter Munn, owner of [Harvest Electronics](#).