

Tommy Vaux

<https://tommyvaux.com/>

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Contact for Phone Number

CAREER GOAL

Seeking to apply my passions of problem solving, product design and emerging technologies, utilise my software & hardware development experience and university education to design and develop high quality, innovative software and hardware products which are environmentally responsible and make a difference in people's lives.

EDUCATION

Bachelor of Electronics Engineering (Honours) Diploma in Professional Engineering Practice (Majoring in Internet of Things - Systems and Devices) (currently studying)

University of Technology, Sydney (UTS)

February 2018 - August 2024 (expected)

- **GPA 5.87 / 7 (WAM 77.09)**
- **HD** in Mathematical Modelling, App Programming, Design & Innovation, ALL 7 Studio Projects, Sensing, Actuation & Control, Integrated Electronic Systems Design (On-Chip Hardware design in ADS), Project Management, Electronic Components & Fabrication, IoT (Internet of Things), Economics & Finance
- **Distinction** in Mechatronics, Information & Signals, Physics, Manufacturing & Engineering Communication, Entrepreneurship & Commercialisation

KEY TECHNICAL SKILLS

- Workplace engineering experience **creating instrumentation software** & testing hardware/firmware
- Workplace experience **evaluating & designing hardware schematics** & **writing technical documentation** such as design requirements for hardware or software project specifications
- Practical experience with **STM32 (ARM) & AVR MCU programming** & solution development as well as **FPGA development** in Intel Quartus Prime, some experience with **schedulers & Real-Time Operating Systems**
- Experience with **Solidworks, 3D Printing, laser cutting, PCB Design** for manufacture
- Programming Experience (**C#, Python, C & Embedded C, Java, HTML, CSS, Javascript, PHP, MySQL**)
- Experience developing **cross-platform mobile applications using Xamarin & Unity3D**
- **Experience in real-time 3D application development in unity3D** including **some Virtual Reality** experience

EXPERIENCE

Engineering Roles at NEOZ Lighting, Sydney

Junior Embedded Systems Engineer (Current)

November 2022 - Present

- Firmware development for new products, Hardware design (including schematics, PCBs, etc.)
- Team management & technical communication, involved in key decision making in product development
- Project management of multiple projects currently underway

Junior Electronics Engineer

July 2021 - November 2022

- Lead project developing an automated testing jig for testing hardware after mass-manufacture
- hardware design & schematic analysis, including being part of the approval process for new designs
- Created hardware and software requirements & specifications for new projects

Electronics Engineer Intern

January 2021 - July 2021

- Developed instrumentation for debugging & testing next generation hardware
- Designed & Developed custom automated testing system for testing hardware & firmware during use in the lab
- Built software from provided technical requirements & specifications

Founder & Lead Developer of an Indie Game Development Company

Flat Wombat Studios, Sydney

January 2018 - Present

- Learned how to produce, coordinate and maintain the marketing of Boat Master & Flat Wombat Studios through Facebook and YouTube
- Learned & applied the various processes in developing, optimising, and publishing a 3D Android & iOS app on both Google Play and the Apple App Store

Achievements:

- Designed, developed & published **Boat Master**, a realistic 3D boat berthing and navigation app that has had well over **1,000,000 downloads**.
- Featured in the September/October edition of Marina World Magazine
- Recommended by boat driver training specialists as a tool to practice driving a boat before practical classes onboard vessels (they recommend completion of level 3 before driving a boat)

Junior Technician (Digital Technologies Specialist)

DART Department, St Andrew's Cathedral School, Sydney

April 2018 - January 2021

- Running a makerspace program teaching students the basics of robotics using Arduinos.
- Assisting teachers and students with programming in Python, Unity and more as well as using hardware development platforms like Raspberry Pi & Arduino
- Facilitating student use & maintenance of modern manufacturing and development tools like 3D printers and a laser cutter as well as designating the required components for student Raspberry Pi kits.

Freelance Web Developer

Whitehaven Motor Yachts

2016/17 Sydney Boat Show

- Constructed a multi-iPad-based customer survey system for Whitehaven Motor Yachts used at the 2016 and 2017 Sydney Boat Show, running off a local closed network web server on a Raspberry Pi.

Achievement:

- Allowed the company to collect the details of over 500 new potential customers over the 5 days of the show.

PRIOR PROJECT WORK EXAMPLES

More details available at <https://www.tommyvaux.com/projectsAndExperience.html>

3D Cross-Platform Mobile Simulation App

Boat Master: Boat Parking & Navigation Simulator

An Application which uses real time rigidbody physics to simulate the accurate movement of various different types of boats in various conditions, and with varying control schemes & physics behaviour for different boats.

Real-time Virtual Reality Application

Virtual Reality Education Framework (VREF)

Enables educators to quickly build Virtual Reality (VR) experiences for demonstration to students. Teachers simply drag & drop interactive components such into the scene & click run, no coding required.

Electronic Refrigerator Information Centre (E.R.I.C)

Smart Fridge System with built-in measurement system & remote data access

A standalone system that could be installed in any fridge that individually tracked the contents of that fridge (such as the amount of milk and eggs present), and would then allow the user to see these values remotely.

EXTRA-CURRICULAR ACTIVITIES

- Followed in the footsteps of our great servicemen by trekking the Kokoda Trail in Papua New Guinea in 2016
- Sydney to the Gong ride for MS (2010, 2011, 2012)
- St Andrew's Cathedral School Bronze Community Service Award

CORE SKILLS

Communication & Teamwork

This is a key part of my work at NEOZ, but is also emphasised through my various communication with customers for Boat Master responding to feedback and maintaining a community. My ideas have also been clearly evaluated and utilised in various group projects at UTS where I received an average of 4/4 for each category of teamwork in SPARKPlus, where team members rate themselves and each other on their contribution and teamwork when working on a project.

Creativity & Design

Highlighted through my various previous projects, where I designed and developed the actual products, as well as the marketing materials for the various products I have developed, including 2 websites. You can find out more about this on my website: <https://www.tommyvaux.com/projectsAndExperience.html>

Organisation & Time Management

I manage and develop updates for a mobile app, while maintaining a full time degree in engineering, and working in industry as an engineer. Managing these while maintaining all other important parts of life has ensured that I have developed effective organisation and time management skills.

Leadership, Mentorship & Support

In my current role I have to exhibit leadership in order to properly manage the various projects I've worked on. Mentorship occurred regularly as part of the makerspace program at the school where I worked, helping students to learn new concepts in relation to programming, solidworks, 3D printing and more.

PROFESSIONAL DEVELOPMENT

Member of Engineers Australia & Previously a Member of Professional Aeronautics and Aerospace Society (PAAS) at UTS

REFEREES

Available upon request.