ADINSTRUMENTS
making science easier

UX Design ENGINEER
Information Pack

CONTENTS

ADINSTRUMENTS BACKGROUND

ADInstruments began when Michael Macknight was undertaking his Masters degree in Computer Science and needed a project. The idea for this project came from the Department of Physiology at the University of Otago, who were dissatisfied with the performance of their old paper chart recorders and smoke drums they were using at the time. Realising the potential of early Macintosh computers, they asked Michael to develop a computer-based system to replace their paper-based ones.

In 1985 Michael built the first MacLab – an analog to digital converter that connected to a Macintosh computer. He then developed the two main software packages, Chart (chart-recording software) and Scope (oscilloscope software), which provided software control of the recording unit as well as a range of display and analysis features.

In the early days, Michael began manufacturing MacLab systems for the New Zealand market only. In the late 1980s he met Boris Schlensky, an Australian with an interest in data acquisition and expertise in electronic engineering. Boris saw the potential of the MacLab system and agreed to cofound ADInstruments with Michael, to manufacture the products for the world market.

Boris's expertise in electronics and engineering, and his vision of what a data acquisition system could aspire to, was the perfect complement to Michael's programming skills. Boris, Michael and their teams, set out to develop the premier computer-based data acquisition system in the life science market. Since its inception, ADInstruments has seen the addition of a wide range of talented people, the production of new and improved hardware and specialist software, and expansion into exciting new markets. Though ADInstruments continues to grow, many of the original MacLabs are still in use in undergraduate life science labs in New Zealand and Australia, the UK and the USA. LabChart (previously called Chart) and Scope have also been continuously improved from those early days. There are plans to continue to add many new features and improvements in future years.

Michael's masters project and Boris's vision started the dynamic company ADInstruments, which has rapidly expanded to thirteen company offices and over forty distributors offices worldwide.

WHAT IS A POWERLAB?

The PowerLab is a smart peripheral device designed to perform the various functions needed for data acquisition, signal conditioning, and pre-processing. It contains its own microprocessor, memory, and specialised analog amplifiers for signal conditioning. All sampling, output, and communication functions are controlled by an internal microprocessor, which has access to internal dynamic RAM for data storage and buffering. The PowerLab uses USB to communicate with the computer.

LABCHART

LabChart software is used with a PowerLab and provides data integrity, display and analysis features. LabChart provides easy selection of hardware settings, powerful real-time analysis, procedure automation, seamless extraction of experimental data and clever display options, along with many more features. Data acquisition and analysis can be extended into a range of specialised areas using LabChart extensions and LabChart Modules.

The future direction of the software development will be improving and adding features to our core LabChart application. We will also be supporting new vertical markets with more specialised LabChart modules. The documentation group will be focusing on more integrated HTML help and greater application specific documentation. To help expand our international market we will continue to invest energy into translated versions of our software. We currently support Japanese, Chinese, Spanish, French, German and Portuguese.

LABTUTOR

LabTutor, our web-based teaching system, leads students step-by-step through life science learning. Since LabTutor's release in 2005, we have developed over 300 experiments and learning modules in ten languages, and we are continually expanding this. The LabTutor suite includes LabAuthor, LabTutor Online and LabTutor Server.

LabAuthor allows the user control over experiment content. They can easily edit existing experiments, or create their own experiments. LabTutor Online enables internet access to experiments so students and educators can work outside the classroom. LabTutor Server ties it all together and provides easy management of courses, classes and student information.

RESEARCH AND DEVELOPMENT OFFICE

The Research and Development office is based in the Donald Reid building on Vogel Street, Dunedin, New Zealand. Our head office is in Sydney, Australia where production and marketing is done. Our sales offices in the UK, USA, Germany, China, Japan, Chile, India, Pakistan, Malaysia and Brazil, are responsible for local sales and provide technical support.

The majority of ADInstruments R&D is done in the Dunedin office. We currently have 54 staff based in Dunedin working on Windows and Macintosh software, software testing, documentation, application and education products, hardware and sales. There are nineteen software engineers and coordinators working on Windows and Macintosh software. Working closely with these teams is our Hardware and Tools team, and our Web Developers.

To ensure the software that we release is of the highest quality we have a team of four software testers and a co-ordinator who put all the software through its paces before it can be released.

We also have our Documentation and Education group of six scientific writers, a coordinator and an administrator. They produce our education material that customers use in their teaching labs, all of our user manuals and the on-line help system. They provide valuable feedback on the quality and ease of use of the software.

In addition, we have an Application Scientist (Sales) to look after our New Zealand customers, an IT/Technical Support person, a LabTutor Specialist and an Office Administrator.

NZ OFFICE STRUCTURE
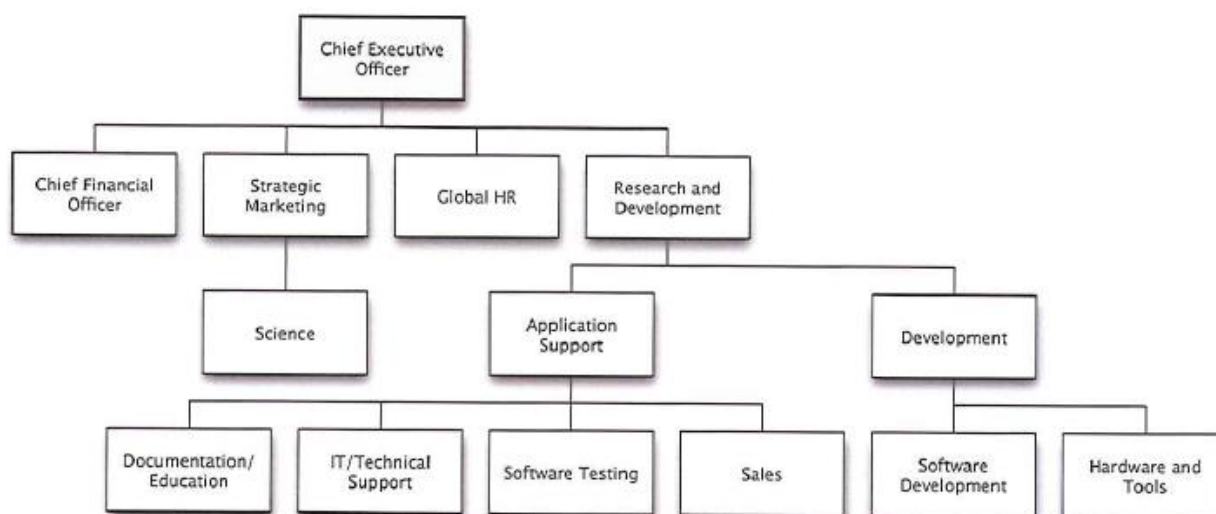
WHAT DO ADINSTRUMENTS STAFF THINK ABOUT WORKING HERE?

Comments taken from the 2012, 2011, 2010 and 2009 Employee Survey question:

The one thing, more than anything else, that makes this organisation a great place to work is:

- A great group of people who are always willing to share their knowledge and expertise with you.
- Lots of very clever people who enjoy their work and like helping each other.
- We make a useful suite of applications that are used around the world. Projects are interesting and practical.
- The work we do is exciting and stimulating and is a valuable contribution to the international society. I truly look forward to coming to work.
- The complex and challenging nature of the work.
- The high level of interaction and communication between different teams of people.
- Being part of an effective and rewarding team that is working on interesting and challenging projects which will hopefully make the company more successful.
- We don't just want to be good enough, we want to be the very best in our market.
- The people. Very satisfying to work with a group of highly intelligent and compatible people. All credit to HR for not compromising on choosing compatible people for the workplace.
- The collective desire to produce effective tools for Science research and education.
- I like the design of the offices so people are able to collaborate. It makes the office friendly and the work of higher quality because you can bounce ideas off other people.
- Right from when I first started working here the organisation has always made me feel really valued as an employee.
- The people that work here, their positive outlook on the company and life and their general attitude and respect for each other.
- Knowing that what we produce is the best in the world.
- The sense of a common purpose in creating and perfecting quality products and serving the market we sell to.
- Flexible work hours and core work hours for meetings.
- It has a very welcoming atmosphere, everyone is friendly and kind.
- An outstanding characteristic of ADI is the obvious consideration for staff wellbeing.
- What we do. We provide a service which is valuable to society as a whole.
- Friendly, capable co-workers who are open to helping others with discussion or demonstration.
- The culture of the company is outstanding. You feel really valued working here.
- Knowing that the products we make are making a real difference and that we are inspired to believe in what we make.

WHO ARE WE?

NEWS AND AWARDS

Kenexa/JRA Best Small Workplace Finalist for the last 4 years (2009-2012)

Michael Macknight:
He turned his
university project into
an internationally
successful company.

Global success

Photo: Alan Dove

MICHAEL MACKNIGHT turned his computer science project into an international company with 14 offices and more than 40 distributors worldwide.

ADInstruments is a world leader in data acquisition solutions for life scientists and educators.

It began with a third-year project to enable the then new Apple Macintosh computers to replace expensive paper-based systems being used in the Department of Physiology, where Macknight's father Tony was head of department. The "Macintosh digital storage oscilloscope" was a success, which Macknight built on for his MacLab MSc project and developed into a Dunedin-based company that now spans the globe.

ADInstruments has more than 23,000 systems in universities, hospitals, research institutes, pharmaceutical companies, contract research organisations and other private industry research sectors.

Macknight had no idea of the future when he started in the mid 1980s. "I was always interested in making things and it was good to make something that would be useful. It was also partly being in the right place at the right time," he says. "The Mac had just come out that year and was a better computer than any before in terms of ease of use. It made sense to use computers rather than dedicated instruments for recording data in life sciences."

When Tony Macknight showed the new system to the world at a trade exhibition in Washington, there was immediate interest.

MacLab and its associated software were initially sold only in New Zealand, but soon spread to the US and elsewhere, with offices following demand.

Customer demand also spurred the writing of new software to work with Windows and the resulting cross-platform PowerLab led to further expansion.

ADInstruments provides slightly different products for education and advanced research, but the connections are invaluable.

"People who learn as students on our equipment go on to research on that equipment because they know its potential," says Macknight.

"Another reason for our success is that we are truly international. We have a big US market, but we are not US-centric. We have always had to sell all over the world – we have products for China, Japan and Germany, for example – so we are still in a good position.

"We also have huge advantages working from Dunedin. We've never felt technologically disadvantaged by being where we are. We can do more with less here – the Kiwi attitude – and we have very loyal staff.

"Our connections with the University are strong. Most of the 35 staff we have in the Dunedin office came to us through the University, as either students or staff, and we have equipment in many departments."

Macknight sees changing technology as a challenging opportunity to respond to in order to maintain a competitive advantage.

"We are constantly developing new products for both scientists and educators. Their needs change all the time and so do we.

"We have no shortage of ideas for staying ahead in the game – we just haven't got the time to do all the things we would like to do."

CEO EMPLOYER NEWS

ADInstruments............
"Quietly doing the Business".

A Dunedin company making science easier around The World.

Michael Macknight formed ADInstruments here in Dunedin in 1988. The Company's products, innovatively designed, and manufactured around strict quality-focused parameters, now assist the delivery of health-science and life-science research and teaching outcomes in an ever-increasing number of international markets.

One doesn't see or hear a great deal locally about what this privately-owned unlisted Company is doing but it needs to be said that world-renowned universities such as Oxford, Cambridge, Harvard, Stanford, Tokyo, Sydney and Heidelberg make wide use of the Company's equipment, and currently, new market opportunities are fast becoming established in teaching and research institutions in India, Pakistan, China, Brazil and Chile.

This is an example, a truly excellent example, of how a Dunedin organization can utilize local expertise and innovation to develop leading-edge technology with wide global relevance.

The seeds of the Company's formation were essentially sown in1985 when Michael, a Computer Science student at the University of Otago, was working on the development of the "MacLab" recording unit and connected software as part of his Masters Degree.

Spinning off what he then saw as opportunities for improving research equipment being used in the University's Physiology Department, Michael worked hard to build the first "MacLab" unit and associated "Chart" and "Scope" software. Rolled together these steps incorporated an analog to digital converter that connected to Macintosh computers and provided software control of reading units and various display and analytical features.

Working with Boris Schlensky, an Australian electronic engineering colleague, who had an interest in data acquisition, Michael formed an initial team of supporting technicians and moved ahead with the formation of ADInstruments.

He hasn't looked back. But, he probably hasn't had the opportunity to do so, for he now heads an organization which employs over 100 staff and which banks an annual turnover exceeding NZ$30 million.

When you talk with Michael it's all about being quietly professional, very focused and just getting on meeting the challenges that some of the world's most well-resourced competitors in the field can place before you.

And, "behind every successful man" (as the saying goes) Michael is well

supported by his most capable wife, Kelly. They form an impressive Team.

Michael, doesn't at all, take a self-promoting stance and he just, in his own quiet manner, presents the view that he was fortunate to "come onto the scene when a certain window of technology opened".

Others would view this differently of course because the results seen could simply not have only originated around a narrow window of opportunity.

The development and delivery of market relevant products along with the strongly demanded follow-on service capabilities have presented a constant array of challenges that have kept the ADI research Teams (based in Dunedin and in Sydney) on their toes.

In the main, the manufacturing tasks are contracted to longstanding partnering concerns and the majority of these are located in Australia.

The 'research heart' of the Company however remains firmly locked into the Dunedin business scene where Company personnel maintain a robust collaboration interaction with The University of Otago.

In a market-driven manner the ADI business model has been expanded

CEO EMPLOYER NEWS

beyond offering only ADI products to global clients, and via strong connections with suppliers of associated equipment, the Company promotes an integrated systems sales platform.

Currently there is a range of over twenty associated parties connected with ADI in this way and, as one would imagine, these organizations, in turn, present 'international shop widows' for the ADI products.

Michael has proved that he doesn't only have backroom laboratory research skills and expertise this being reflected through the fact that he has personally led the off-shore market development drive.

He spends approximately two to three months a year in international markets and with the growing range of new university and higher-learning institutional developments in third world countries he is now required to travel to 'less likely' global markets in regions such as South America and The Middle East.

Up until recently the Company's market split was essentially one-third USA, one-third EU and one-third Oceania but penetration into the new market regions will alter this mix in the near future.

ADI does not pursue expensive and internationally challenging patent protection processes but has chosen instead to firmly anchor intellectual property rights around copyright and commercially-relevant and tightly held in-house trade secrets.

In any case lead-time on new product development is tight and ADI's close attention to the constant update of it's specialist equipment ensures market positioning objectives are met without lengthy and expensive protection mechanisms.

One relatively expensive operational element which cannot be avoided relates to the varied market-demanded needs around translation and imaging work on product manuals and implementation cataloging. With the ever-widening and culturally diverse collaborative arrangements now being cemented into the Company's operational framework these demands are now fortunately being well met.

Michael mentions, in response to my question, that the most challenging

Michael Macknight formed ADInstruments here in Dunedin in 1988.

elements of successfully operating a business in this specialist arena are:

(1) keeping R&D capability "one step ahead of the competition",

(2) ensuring the supply of quality-based and consistently accessible customer support to a wide range of diversified global clients.

(3) And, of less significance, there is (of course) the need to recognize occasional product copying challenges from company's located in 'that country that makes copying a whole new business in itself'.

Within the international scientific world however there is the academic 'word-of-mouth' endorsement benefit and historical teaching and research linkages through which proven products and systems capture acceptance on an ongoing basis.

In ADI's case approximately fifty percent of current business activity is with existing customers and when one is working with world-renowned institutions in a long-term professional manner, new client interest can be secured, in most cases, more easily.

There is high credibility across supplier, products and follow-on services.

In reviewing the overall ADI establishment and development situation as he sees it, Michael speaks highly of two critical key success factors. These are the Company's longstanding and very close working relationship with The University of Otago and the loyalty and calibre of the Company staff.

As I see it, the ADI establishment and strong growth development has been driven by the application of Michael Macknight's professional expertise and commitment to meeting defined challenges on a most specialist global stage.

The ADInstruments success story illustrates what can be achieved where academic and business communities merge interest areas in a meaningful manner and, perhaps more importantly, shows that world-leading developments in certain fields, can originate and be maintained from Dunedin.

John Scandrett
Chief Executive Officer

JOB DESCRIPTION

UX Design Engineer

Prime Function

To design and develop user experience related aspects of the company's software.

Key Tasks

- Work with the Development Manager, Co-ordinators, UX Design Engineers and Software Engineers to design and implement user-facing parts of our software and services.
- Design, develop and modify software systems, using design thinking and engineering best practices.
- Produce software specifications and user interface design prototypes.
- Modify existing software to improve the user experience.
- Compile and write design language documentation so others can contribute to a high quality and consistent user experience.
- Ensure the software produces the desired user experience, through design practices such as user trials and metrics.
- Liaise with managerial staff to clarify program intent, identify problems and suggest changes.
- Correct errors and then test to ensure the desired results are produced.
- Provide assistance to the software testing and documentation/education teams as required.
- Other related tasks as required.

Relationships

Directly Responsible to: KuraCloud UX Co-ordinator
Under the Overall Direction of: Development Manager
Functional Relationships with: New Zealand staff

Expected Outcomes

- The user experience across our software products and services is consistently excellent.
- Software produced meets the required specification and is completed within required deadlines.

Person Specification
- Practical understanding of design thinking as applied to software and internet services.
- Appreciation of good user interface design.
- Experience in designing and developing professional products.
- Significant programming experience, preferably using JavaScript.
- Ability to take product requirements and design and implement a suitable product.
- A tertiary qualification in Computer Science, Design or related field of study is desirable.
- Experience working as part of a team of Software Engineers is desirable.
- Ability to design a product that is elegant and intuitive.
- Ability to work well in a group, sharing ideas and problem solving.
- Understanding of issues of team software development.
- Good interpersonal skills.
- Excellent organisational skills such as time management and prioritising.
- Ability to maintain strict confidentiality.

APPLICATIONS

TO APPLY

Please send your application form, covering letter and current curriculum vitae to:

> ADInstruments Ltd
> PO Box 587
> Dunedin
> Email: nzrecruitment@adinstruments.com

Applications close on Friday 26 July 2013

THE APPLICATION PROCESS

Once applications have been received, a preliminary short list will be prepared and you will be contacted again at this stage. Those applicants who have been short listed will be invited to attend an initial interview. Once all the interviews have been completed, a final short list will be prepared and applicants on that list will be asked to undertake occupational assessment.

Privacy

Under the Privacy Act 1993, we have certain obligations relating to the collection, storage and use of your personal information e.g. your curriculum vitae, reference information, assessment results etc. If we do not receive a specific request from you to destroy all information pertaining to you, we will take this as consent to the following:

- Applications will be treated confidentially. Your information will only be provided to the interview panel.
- If you would like to amend or withdraw your application at any time, please contact Emily Lucas.
- We may contact and gather information from people you have named as referees.
- If you accept an offer of employment, your application, curriculum vitae and assessment results will form part of our human resources records.
- Information from unsuccessful applicants is destroyed after three months.
- You undertake that all information provided by you is correct, complete and not misleading. You understand that if incorrect or misleading information is provided, this may be grounds for dismissal from the company, if you are successful in obtaining employment.