VICTORIA UNIVERSITY OF WELLINGTON

Te Whare Wananga o te Upoko o te Ika a Maui

School of Engineering and Computer Science

Te Kura Mātai Pūkaha, Pūrorohiko

PO Box 600
Wellington
New Zealand

Tel: +64 4 463 5341
Fax: +64 4 463 5045
Internet: office@ecs.vuw.ac.nz

Work Experience Reflective Report

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Summary

I have worked as a mobile developer at Trade Me over the last two years. Fixing bugs and producing features for the main Trade Me Android application. My degree specialisation is in electronics, despite this I found I picked up the work easily. Trade Me staff were very accommodating and I developed a number of useful skills.

Trade Me is New Zealand's largest online shopping website, with close to one million unique interactions daily. Trade Me has approximately 500 staff at time of writing, including a large number of developers specialising in back-end development, database management, web development and mobile development.

Throughout my time I was involved in numerous large projects, which emphasised the usefulness of management skills and communication, leading to my concluding that in an IT role, soft skills are of as much importance as technical prowess. Of these, the most important soft skills are related to management in all aspects of work and good communication skills. I found that the skills developed at Trade Me, were directly applicable to not only personal projects, but also university work on larger projects.

1 Acknowledgements

I'd like to acknowledge my immediate superior Albus Dumbledore for his managerial work regarding my employment at Trade Me. He always made sure I had nothing to worry about through the most stressful times. Additionally, I'd like to acknowledge Severus Snape for acting as a mentor when I had development related questions.

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2 Introduction

This is a report reflecting on my work experience at Trade Me. I am an ECEN student at Victoria University who found and took up work as a mobile developer whilst completing my Electronics Degree. My future career goals do not include mobile application development, however the skills I acquired at Trade Me will be applicable to many other IT work environments, the work also counts towards my Engineering degree's professional work experience requirements and paid work has provided useful funds to supplement my time in study.

Trade Me is New Zealand's largest online shopping website. In terms of employment, Trade Me consists of everything you'd expect to find in a publicly listed company, with management levels, organisational hierarchy and strategy emphasised at every level. The business itself spans multiple technological verticals, maintaining several different websites, mobile applications and additionally provides support for third party applications.

3 Providing Context

3.1 Trade Me

Trade Me has been a well-known name in New Zealand for many years, gaining popularity rapidly after its conception in 1999. The original intention for Trade Me, posed by founder Sam Morgan, is to provide a place for New Zealanders to buy and sell stuff. At the time, little existed fulfilling these

needs bar physical interaction and advertisement. Trade Me attempted to fulfil this requirement, rapidly gaining popularity and publicity. It began in 1999 as a start-up company, with the initial team consisting primarily of developers. As the company gained popularity the demand for services increased, leading to the need for more developers, as well as legal advisors and business analysts. The company continued in this manner headed by the founder and former CEO until its purchase by offshore company Fairfax Media in 2006 for $700 million. Following this acquisition Trade Me became publicly listed, floating in 2011. Driven by ever-increasing demand, as well as the requirement to generate returns for investors Trade Me continued to increase in size, before seeming to reach a current equilibrium of approximately 500 employees.

The entire three storey office on Market Lane in Wellington is open-plan, with no seating hierarchy other than ensuring teams are able to sit together. Because of this it's very easy to get to know the operations of the business outside of your business unit, as well as to get to know the people behind the decision-making.

3.2 Trade Me culture

My immediate thoughts after beginning employment were that the culture and values are extremely conducive to productivity measured not by sheer output, but by quality of the resulting product. The atmosphere at the company is warm and welcoming, with everyone exemplifying the company values in day to day operation. Notably, the most well observed value is "Don't be a dick". The mood of the office was further lifted by desk layout and available facilities.

Socialising was encouraged throughout the day so long as deadlines for work tied to business initiatives were met, with events organised to ensure everyone working together remotely knows each other personally. Such events were often held at the Wellington premises, with developers from Auckland flown down for 1-2 days, scheduled biannually. Additionally each guild, i.e. group of people working on similar products, for example the Mobile Guild, are encouraged to attend an off-site event. Such an event is often hosted in a lodge or similar form of accommodation, where team building exercises and general leisure activities are conducted. Furthermore, to encourage socialising outside of one's immediate guild, Friday evening work drinks are held every week for the entire office to attend.

3.3 My role

My role at Trade Me began in 2015 through Summer of Tech. I was able to fulfil an internship in the area of Android Mobile Development. This involved work in large, multi-vertical teams, with communication occurring between numbers of different stakeholders. Primarily my role consisted of development in the Java programming language, moderated by strict source control processes to ensure code is reviewed and visible throughout the organisation. This work proved to strengthen my project management skills primarily, as well as technical skills such as programming in a number of different languages.

In terms of work, the opportunities for an intern developer were diverse and plentiful. As a mobile developer based on the Android platform, my work primarily consisted of development work targeting this platform, with development tasks being undertaken in the languages of Java, Kotlin, XML and Groovy primarily. These tasks ranged from simple bug fixes to large pieces of work,

including multiple screen features and research and development tasks. Additionally, tasks came up outside of the development area to promote business insight as well as insight into other areas of expertise. These include attendance of strategy and budget related meetings, as well as cultural meetings and even the chance to street test promising new designs.

Work was allocated for the team I was working in in yearly chunks in the form of a roadmap and actively updated through the usage of retrospectives. The team maintained a backlog of tasks which needed to be completed, and focusses on general tasks not directly tied to business objectives such as product health and feature parity with the desktop site. This backlog was actively updated through the use of retrospectives, where fortnightly the team would meet and discuss work conducted over the previous period, and what could be done to improve productivity

4 Reflecting on the Experience

4.1 My experiences at Trade Me

My experiences at Trade Me consisted of a multitude of things that I had little chance to experience in previous workplaces. These previous workplaces consisted of hospitality and labouring work, as well as academic work in the form of tutoring. Throughout these previous roles I was able to build up a good work ethic, however I had no experience of a corporate work environment until I was at Trade Me.

At Trade Me teamwork, performance and communication are keys to success. There was a constant pressure to complete and release work, but not so much that it was a stressful atmosphere. It’s the first employment situation I’ve had where responsibilities imposed on me as a developer were worth sometimes millions of dollars from a business standpoint, and although this point wasn’t emphasised by any of the management staff above me, it nonetheless took a little to get used to.

An experience I hadn’t been subject to previously was the notion that some of the work I was conducting was relevant to other technical areas of the business, therefore imposing a deadline. An example of this is the slow roll-out of a payments system known as Ping. This system was developed by a team in a standalone environment and then rolled out simultaniously across four different platforms: Android, iOS, the classic website and the next generation website. This set roll-out put pressure on everyone in these platforms. With Android development being very verbose, this hindered progress somewhat. The project was released in time for the deadline, however this was an incredibly stressful situation which impacted negatively on teams.

Another new experience was the implementation of proper agile software development. As an electronic engineering student, I did not have the chance to do any of the agile methodologies papers at Victoria University therefore had little experience in the topic. The experiences I had at Trade Me consisted of daily stand-ups, as well as fortnightly sprints, squad retrospectives and guild meetings. This appeared to work well, but I regret not knowing how other approaches might work in comparison.

As a last point, I had the opportunity to get feedback from not only immediate stakeholders such as managers and higher-up staff, but also from users of the application I was working on. Currently, the Trade Me Android app has close to 1.5 million downloads, and just under 150 thousand daily

active users. New Zealand, being such a small country in terms of population allowed me to communicate with friends and family members about their experiences with the product, which provided information I could then apply when developing new features, and considering what to work on next.

4.2 Reflecting on my experiences

At Trade Me, throughout my employment for the past two years I made several minor mistakes. As these were made as an intern, they were easily dismissible and easy to learn from. These mistakes were exclusively development related, including accidental commits to master (as for some reason this branch wasn't protected), general git issues, and introduction of buggy code to the main application codebase. Each of these mistakes taught me not to do what I had done to allow that mistake to occur. This lead me to learn how to be a professional developer essentially through trial and error. Ultimately, these mistakes taught me to think more before acting.

Academia I find promotes the sense of working hard for long periods, with little time available to properly ponder the tasks being conducted. Applying such a stance to professional development leads to poorly engineered products, therefore I learnt quickly that "measure twice, cut once" is not only applicable to carpentry. This was implemented in this context by planning and seeking feedback on the plan from the senior development staff before commencing work. This is a strategy implementable in academia also, however I found in practice it was not as relevant.

Additionally, I find that results in academia are somewhat determined by what the student will settle for. This is obviously not the case in a professional development situation, where the requirement is the best work you can do in the time allocated. Outcomes of work conducted are not graded, or marked, but peer-reviewed which is a more daunting experience.

I had numerous experiences with time management and planning. This aspect of personal and project management is perhaps most important when working in a complex company, with numerous internal processes and lots of moving parts. As mentioned previously, an example of this is the roll-out of Ping. This roll-out taught me that in software at scale, a minimum viable product (MVP) should be pursued first, but not without thought of the bigger picture. I found this out the hard way. I implemented a feature as quickly as possible, not realising it was architected poorly, which in turn lead to bad extensibility. This was noted at the conclusion of the work on our MVP. We then had to spend an almost equal amount of time to refactor code, to allow for further additions. The key takeaway of this, in terms of time management, is that although planning and architecture work seems like a waste of time from the outset, it can save considerable amounts of time further down the track. I've since learnt to spend time prior to implementation of a feature in planning, such that the feature is implemented as best it can be in terms of performance and extensibility.

Agile software development is a large part of the software industry. It's implemented in several companies in different flavours such as Kanban, Scrum etc. At Trade Me, my team operated on a loosely Kanban based method of agile development. Here, we had a backlog of small tasks as part of a large feature. These small tasks were divided such that they're relatively independent of each other, allowing work on several tasks to be conducted in parallel. This method of task delegation worked incredibly well when all of the development team fully understood the requirements of each task, and how work would progress. This shared understanding was gained through lengthy discussions about the overall feature, and what each task required, allowing the assignment of

acceptance criteria. What I took from this is that an important part of conducting work in an agile manner is that everyone working on the project has the same understanding of the problem. I noticed that in university team-based projects, the most successful of these seemed to be when all team members know the requirements of the solution being developed. It became apparent quickly that in industry this is also the case. In new projects, I plan on emphasising this as an initial team-based task before commencing work. It's proved to be of importance when conducting work with minimal conflict, and is something I will put in place in all projects going forward.

Being able to receive feedback on work is inherently a requirement for agile software development to be conducted successfully. Normally, feedback is gathered with respect to a client, where at the end of a sprint a meeting is held between the client and the team to discuss development on the product. In some cases, clients may not be available to give feedback frequently, potentially leading to a product that's suboptimal. Something I found when working at Trade Me is that the opportunity for feedback manifests itself frequently and through many different channels of communication. For a project as such, without an end date, the "client" can be an abstract concept. In terms of work on the main Android application, the client could be the end users, my manager, or other squads working on the same application. Often for pieces of work with more of a technical focus the primary stakeholder may be other developers, whereas for user-facing content the users would be the primary stakeholder. This often meant that feedback was gathered in informal contexts. Discussions with other development staff in private messaging channels often served as a means of feedback. Feedback from management staff was often given after daily stand-ups, where work outputs for the past day were discussed.

The most important feedback to take into consideration in my mind was that of the end user. This form of thinking manifests in the core values of Trade Me, where "Build delightful online experiences" and this directly relates to end user satisfaction. This feedback was gathered through several different channels, such as; feedback emails, Play Store feedback, and street testing of design mock-ups. Furthermore, I found I was discussing the application with friends and family if they were users. This allowed me to gain insight into what the pain points of the application are, and gaves me more to consider when developing new features. This is something we're lucky to have, as most projects do not have such a large reach that most people in New Zealand know the product. What I've taken from this is that every opportunity for feedback on work should be taken if possible. Although a lot of feedback I got about the application in general was not directly relatable to work I'd conducted myself, it still provided insight into how the stakeholders feel about the application, which is useful information when developing new features. Going forward I plan on making the most of feedback opportunities in projects I'm working on. This is relevant not only to industry based work, but also personal projects with the goal of creating devices for friends and family to use.

4.3 Relevance of the BE and ECEN qualifications

I found throughout my time at Trade Me that I used skills developed at university which I had not immediately expected to be of use. The skills of time, stakeholder and project management are applicable to almost any professional role, therefore the use of these was expected from the outset. However I had not expected to use other, perhaps not immediately relevant skills such as assessment of work, non-technical report writing and concepts of economics and business management.

Upon reflection, no one course can be stated to be more helpful than others. Management knowledge gathered in ENGR301/302 was of high importance, but as too was the ability to learn advanced concepts in as little time as possible, which is something emphasised in every aspect of an Engineering degree. I found that skills relating to assessment of work were first developed in the context of working as a tutor at university, giving me the ability to provide comprehensive, constructive feedback when performing tasks such as code review. Furthermore, communication skills in general were used throughout, with the change to give presentations to portions of the company about both technical and non-technical topics.

Being an ECEN student in a software job meant that a large part of the curriculum studied had no relevance in terms of technical knowledge. It was found however, that electronics knowledge can be useful in almost any field. One occasion where I used electronics knowledge was on one of the monthly research and development days held within my squad. For these, the mantra describing the tasks we can conduct are “They’re good for us, and good for Trade Me”. If the task conformed to this specification, we could spend the day working on it. One task I worked on with a colleague, was the development of a system to track occupancy of bathrooms, to avoid people attempting to use an already full bathroom. This was implemented through the construction of electronics to track entering and exiting patrons, and utilised hardware development and embedded code concepts learnt throughout several ECEN courses.

5 Conclusions

Conclusions drawn during my work period include:

- Planning is of utmost importance, be it technically focussed or time-management based. This was evident through several different experiences, and is easily one of the most important aspects of a successful project in my opinion.
- Team-wide understanding of a problem is important with respect to that problem being solved in the best way possible.
- Feedback is extremely useful. Be it feedback from developers, managers or users, it all serves to improve the product and provides an extremely useful learning opportunity.

These conclusions broadly encompass the main takeaways I gathered in my time at Trade Me. During this time, a large number of different skills were developed. These include:

- Project management skills
- Development skills in a professional context
- Communication skills, with staff as well as users
- Specifics of agile methodologies
- Time management skills