Student Placement Report

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Applications Developer

Summative Report

It is assumed that the reader of this report is from a technical background, and understands the terminology and syntax used throughout, without additional explanation required from the author. Code used in this document is represented using the Courier New font, and will be coloured in the same style as would be found in Microsoft Management Studio and Microsoft Visual Studio.

All examples of code used throughout this report is property of SABIC UK Petrochemicals[1].

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[1] Registered Number: 03767075, Registered Office: The Wilton Centre, Redcar, Cleveland TS10 4RF.

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1. OBSERVATIONS

1.1 My Job

As an Applications Developer for SABIC UK, I have performed a variety of different task requiring a vast array of skills. Much of my work consisted of building functional web applications, but was also required development of agent applications, architect database structures and to perform various degrees of IT support.

1.2 Learning Opportunities

The learning opportunities provided to me by my supervisor have been second to none. I have been fortunate enough to have a technical manager as a supervisor and the product of this has been great. I have not only been required to learn new languages and techniques which have allowed me to learn on the job, but I have also received training and guidance through code reviews and one to one sessions on how best to solve a problem. Through this, I have learnt in a way that has allowed me to retain the knowledge through hands on work; whilst also learning the correct way to do it.

1.3 Technical Requirements

I started the job wanting to expand my knowledge of desktop applications and expanding on the lessons learnt from Advanced Java in applying design patterns to real world situations.

Learning skills in database management was also a requirement I had upon starting this placement. My technical ability in SQL was poor upon starting the job, and I wanted to better this.

1.4 Personal Requirements

It goes without saying that choosing to do this placement, I wanted to understand how the skills I have learnt from University are applied in industry. I wanted to improve my communication skills, and how to better solve problems.

Above all, I wanted to gain experience in working as a professional – through working in a professional team, and how I presented myself to colleagues, managers and customers.

1.5   Academic Association

I feel in many ways, the academic lessons learnt in years one and two did not fully prepare me for this placement.

Many of the technical lessons learnt, did not apply to my role in SABIC. I have not used many of the languages that I learnt; I have never done any mobile development and have certainly not dealt with marketing a business. That said, my work in Java for both years propelled my understanding and learning of C#. The SQL I learnt at University – although basic, made the step into the role of application developer a little smaller.

 I feel that much of the fact there is less association is because given the requirement of my job, I did very little in the way of modular programming and did very little reputable web development work.

The soft skills taken from University where minimal and did not contribute to the job. Group work from University is far too artificial and does not reflect working with people who desire the same outcome as you or of working with people from different professions.

2. PERSONAL DEVELOPMENT

2.1 Lessons Learnt

1.1.a Time management

Without doubt, this is the biggest lesson I have learnt in my time at SABIC. In University, you are given a problem to solve and you know that it can be solved within reasonable resource boundaries. In contrast, in Industry a customer could present you a problem which is not solvable, or may consume far too much time for work that has little return. It is a skill that I have only gained from my placement, the ability to assess the work that comes in and manage my time from that by either accepting or declining.

1.1.b Acceptance of Responsibility

As a developer – for every deployment of a live system you make, you're ultimately responsible. This is a tough lesson to learn, when you find out you have missed a bug in testing and there is a fault on a live system and has resulted in a few late nights. In these scenarios you have to accept that you cannot point the blame to anyone else, but simply accept the fault is yours and rectify it.

1.1.c Delivery of Criticism

Oft times, I found myself giving feedback upon peer produced products, I found that I was in some cases a little to forward with what I had to say and caused some unintentional insult. This problem made an appearance in in one of my reviews and it was from then I tried to word what I said better and most of all always provide some constructive criticism.

2.2 General Benefits

Upon starting the job, I was a twenty year old male student – my maturity was much to be desired for! Through the placement, my maturity has come through leaps and bounds. I value the way I conduct myself professionally a lot more, now that I have seen what kind of an impact it can have on the way colleagues and customers perceive you.

From this placement, I now instinctively think about what I have to say before I say it. Through this, my ability to ask questions concisely has improved and indirectly from this my confidence to speak technically has soared.

2.3 Technical Skills Acquired

It is hard to describe just how much my skills in developing software have increased. Through the sheer broadness of the job, I have picked up several new languages and learnt about all new areas of development.

3.1.a Database Management and SQL

All the applications that I use are supported by a SQL server and learning about database management has been critical. Working with vast amounts of actual data has been a major part of this and after learning SQL I have been able to optimize queries to get the most out of a database. It has also taught me to respect security more, and the importance of securing all data at the 'deepest level' – i.e. the database. I have learnt how to do this through the use of Microsoft AD Groups and database roles, the job has also expanded my knowledge on SQL injection.

3.1.b Web Applications

I have learnt about web applications, an application I had never before created. The varying layers of a full web based system has allowed me to learn a considerable amount more regarding servers and how HTTP is used to GET and POST data. The importance of usability in software will be something that I take away from this placement, especially in a work place when some users have not yet fully adapted to computers. This year had taught me how to develop responsive web pages, with easy to use, 'stress free' pages in CSS.

3.1.c Development Techniques

I have also learnt many deployment techniques in my time here; my team used SVN to develop and deploy applications using three environments to build, test and release. In the project work I have done, I have also learnt about Agile development techniques.

2.4 Personal Skills Acquired

Through the day to day use of computers in a professional environment incorporating meetings and reviews I have picked up many 'soft' skills.

4.1.a Computer and Technical Literacy

After spending so much time working on computers my general skills in IT have improved. They may be simple things, but I feel that this can have a dramatic impact. I have learnt to type faster and greater accuracy and I have learnt many useful keyboard shortcuts that can speed up any task.

I have also learnt more about various other technical features like commands in Command Prompt and run, and more about registry keys.

4.1.b Troubleshooting

Asking the right questions can make all the difference. I now have an ability to quickly and accurately diagnose bugs and problems from non-technical answers. This is a valuable skill to have when dealing frustrated customers.

4.1.c Interpersonal Skills and Professionalism

Working in an office requires a professional etiquette that I would only have learnt from being in industry for a year. I have learnt to be professionally friendly and polite, yet at the same time have understood when I should apologise or back down and when I should stand my ground. It is important to balance these too interactions, too much of one could lead to an irate customer or to a never ending project.

2.5 Effects from These Skills on Me

I have certainly changed in this year out from academic life. My confidence to speak out has got better and I feel that from this year I am more confident in sustaining a technical debate. I have more of an ability to sit back and make assessments of a problem before diving in.

There have been some negative effects from this placement – I find that I am out of touch with some friends and family I feel I can come across as pretentious in the way I speak and the way I hold myself. I find that from solving logical problems on a day to day basis has made me less empathetic towards others and I am more cynical as a result.

2.6 Final Year Influence

Prior to this placement year, I did not feel confident enough to take the Advanced Database module, but now I do and wish to change my options.

I never really had an idea of what I wanted to do for a project when I finished my second year. To some extent, I am still unsure as to what I wish to do. Based on the skills I have developed in web applications and databases, I certainly think I should base my project on these strengths. And I have a least three ideas I have collected from this year on what I want to do. Two of them are ideas for projects that could be beneficial to SABIC; obviously they are directly influential from this year.

2.7 Aspirational Influence

One of the reasons I decided to go on placements was so I could get a feel for what my chosen career would be like. I have enjoyed this year and from it, I would very much like to stick to the aspirations I had before starting.

I had originally wanted to get a job more orientated in networks and infrastructure but after this year I have made a decision on what area I would like to work in, and I would very much like to have a similar job after I complete University.

3. MY CONTRIBUTIONS

3.1   Contributions

I believe that I have made several major contributions to my host. Firstly, Site Improvement Tracker was the biggest front-end system I made that is now in use by managers at all levels across the site. At the time of writing, I have been involved in discussions regarding the 're-packaging' of the system for use in our sites in Europe. The system has also featured in the Site's quarterly newspaper – a testament to the work I have done.

Secondly my back-end agent which is extracting CO_2 emission data from our plant servers and exporting them to Excel reports is a major site contribution. This data is being used to report our emissions to the Environment Agency, another milestone in the work I have done here at SABIC.

3.2   My Influence

I would not say I have had any major influence on my department or team but I would like to think that the work I have done in adding corporate themes to our systems, and increasing their usability will be continued.

4. ACKNOWLEDGMENTS

4.1 Tony Porritt

The supervisor and boss who gave me more than I could ask for. I would like to thank Tony not only for the training and wisdom he has bestowed upon me, but also to thank him for the amazing opportunities he has provided me. I never imagined that when I was on a placement I would have built some of the applications I that I have, nor did I expect these applications to be as much a value to the site as they have been.

4.2 SABIC UK Petrochemicals

My gratitude goes to SABIC for allowing my employment and giving me the opportunity to gain a year's worth of industry experience.

The same should be said to the applications team for accepting two placement students as colleagues, and not as students and putting up with all our questions through the year.

4.3 Phil Brooke

I would like to thank Phil for his guidance and help he gave in our placement visits.

4.4 Teesside University Placement Team

I would also like to thank the placement team for putting so much hard work in helping me get this placement and a special thanks to Vicky Lince for doing most of the work.