

# Internship Interim Report Stage 3

SAP

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### Declaration A

I hereby certify that this report which I now submit for assessment to the School of Computing, Dublin Institute of Technology on the programme of study leading to the award of **Bachelor of Science (Hons) Computer Science** entirely my own work and has not been submitted for assessment for any academic purpose other than in particular fulfilment for the stated above.

Signed



Saira J. Barlas

Date

06/05/16

### Declaration B

I confirm that this report has been completed without breach of company confidentiality.

Signed



Mark Coonan

Signed



Etienne Guilhaume

Date

06/05/16

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## 1. Introduction

### a. Overview of the industry placement process to date. What you found helpful in the preparation and suggested changes with reasons for the suggestions.

I started my internship with SAP on 1<sup>st</sup> February 2016. The journey to get here has been exceptional and very rewarding. With all the preparations and classes that I attended during the 1<sup>st</sup> semester of third year and 2<sup>nd</sup> semester of second year, up to date I would consider them the important stepping stones for my current industry placement. The information I received in those classes and the information I gained through webcourses and extra links provided by Leslie Shoemaker have been superb. The material provided in regards to what an employer seeks and how to tailor an individual's CV were the most beneficial considering I had never created a professional CV before. The classes also involved the correction of a student's CV in comparison with the CV criteria provided and also in preparation for the question and answer sessions with an employer. I found the whole process to be very helpful and reliable. The only change I would consider would be to have more technical question preparation classes as this would boost the candidate's changes of a successful interview.

### b. Describe interviews attended and feedback from those experiences.

I had the opportunity to attend two interviews, one being Ocucu and the other being SAP.

#### Ocucu

The interview with Ocucu was a different and new experience. It consisted of two parts; first part involved being interviewed by someone from human resources. The second part involved being interviewed by the lead developers in Ocucu. This interview was mandatory and the entire third year from DT228 were required to attend. The human resources interview involved being asked questions in regards to Leaving Certificate grades and where I had worked before. The interviewer also examined my results from first and second year of university and wanted to know which position I would be interested in.

The second part of the interview was very technical. The two developers took turns in asking questions in regards to the projects I completed in university and what programming languages I had knowledge of. A few databases questions were asked and both wished to know whether I considered business and computer science a great combination. I was also quizzed on the terms "polymorphism" and "method overriding" and a few database SQL terms.

Ocucu interview overall had been very informative. I received an insight into what a real interview consists of and the material and the knowledge that needs to be prepared before any interview. The feedback that everyone received from Ocucu was similar in regards that most students only mentioned game development and had game related projects listed in their CVs. This was one point which Ocucu considered to be impractical considering most companies sought out software developers that would be beneficial to their own company. Ocucu also communicated that the knowledge of the company would aid in a successful interview for any candidate.

## SAP

The interview with SAP was immensely enjoyable. I was interviewed by my current manager and an individual from human resources together. The first few questions were all related to my CV as the interviewer went through each section asking me questions from my school to all the projects I had carried out in university and in personal time. I was also asked what my interests were and how it connects to computer science. The technical interview was surprisingly similar to the one with Ocuco and was mostly related to OOP terminology. I was also informed of the languages that SAP primarily uses, the two being Java and Javascript.

There was also a session where I was asked how a game developer would fit into a software developing company as I had shown a great love and knowledge for game design. I thought the question was very reasonable and answered as I saw fit. There was also a Q&A session where I received the chance to ask the interviewing panel any queries I had in regards to SAP and the products.

The overall feedback from SAP was quite good as I was selected for the internship. I was interviewed for over 40 minutes and had a strange feeling that it would be successful. The feedback that anyone would take from SAP would be that preparation for a company and knowing what the company works upon is the most important element. Showing knowledge of the skills that the interviewer is seeking is a must for any outstanding interview. Above all being enthusiastic and keen during an interview is a great approach.

## **2. Company in Context**

### **a. Description of the recruitment process and the induction process within the company.**

After being informed that I was selected for the developer position at SAP, I was given information that I would be contacted in late November. As November came about, I received an email from a SAP recruiter and was given the start date of my placement. I was also asked for my date of birth which I gave. A few weeks later I received another email which involved uploading and submitting my personal details and the required documents and passport that were necessary as a SAP employee. The last email I received gave me insight for the induction process for new employees. It gave me the date I would need to attend and what to bring with me.

The induction process was interesting, I attended the day all the new interns and employees were expected. Everyone was greeted by an external staff member in the Kingswood building and were led to a different room where SAP rules were introduced and reviewed. The general rules were then followed by a different SAP employee who decided to inform the new employees in regards to SAP general software. The software which can be installed or used with the SAP machines.

Lastly, the new employees were met by their managers and buddies. I and another intern were received by a manager and two buddies who informed us in regards to our future position of development and the product we shall be working upon. The day concluded with us being taken to our team's working area where we received our very own work station. We were introduced to each and every member of the team.

### **b. Discussion of the functional area worked in and how your role contributes to that area.**

The functional area that I'm currently working under is that of development. The role is demanding and challenging. I began with being introduced to the code and the software which I would be working with and the product being Design Studio. Being introduced to the wiki pages which included tutorials of how to set up the developing environment and the relevant information for new hires. I was started off with looking through the code and familiarising myself with the layout and current programming regulations which SAP is used to.

The first few weeks were spent very much familiarising myself with Design Studio and the relevant Java and Javascript. Design Studio is generally used in producing business analysis applications by customers. There are currently two major topics which the Design Studio team in Ireland are currently concerned with; Bookmarking and Export to PDF. I was initially placed under Bookmarking yet I decided to move to Export to PDF as my interests lied there.

My initial contribution involved becoming accustomed to the code and refactoring the code which I was required to. As I became more experienced, I was given much more worthwhile work ranging from creating actual feature work (see Appendix 1) and downporting (see Appendix 2) code. Currently I am working with major feature work in regards to Export to PDF and I see myself making huge differences on how customers shall use Export to PDF on Design Studio.

### **3. Expectations of internship experience**

#### **a. What do you hope to achieve during this time? Please be specific**

I hope to achieve a variety of things during this internship. My primary concern is to first of all realise what a development position demands. I wish to be sure of whether this position is suitable in regards to my future. Secondly, I had been curious in regards to how a developer in a software company contributes. How the position impacts the company and what general tasks does one carry out while interacting with other team members. Thirdly, I wish to know whether it is enjoyable to work as a developer. If the job is demanding or whether the job is extremely exhaustive. Another concern would be on what the shortfalls are in regards to working as a developer and how one can overcome difficult situations in a working environment.

The general goals would be to learn as much skills as possible and gain experience while I am at placement. I hope to tackle as many tasks as I can and grow as a developer and as a person. Working in SAP has given me a first-hand insight on what each of these concerns entail and I have slowly come to realise the advantages and disadvantages of working as a developer in an international company.

#### **b. What goals do you have for your technical skills and how will you know you have met them? Please be specific**

My primary goal is to become a better developer in regards to programming. I hope to perfect my programming skills in regards to an acceptable company standard. I wish to become proficient at Javascript and Java. I consider myself currently mediocre yet after the internship I hope to be adept at the two mentioned languages. I also have been quite fond of inserting comments in my code yet after arriving at SAP, I've realised the code should initially speak for a person. I also wish to become more confident with my programming skills. Be more comfortable writing code with a delightful approach.

I would know I have met these at the end of the internship as I would gladly consider development as an option and especially at SAP. Up till date my experience has been extremely positive and I see myself working as a development position yet rather at front end development rather than back end development. Overall I would know I have met these if my work at SAP has been enjoyable and rewarding.

#### **c. What goals do you have for your soft skills and how will you know you have met them? Please be specific**

The soft skills goal I have would be to become more confident considering I'm a shy individual. To be more frank and more people friendly and be more outspoken. I hope to improve my communication and team member skills while also growing as a person. I would know I have been successful is if I'm not as shy as I used to be and I do not become anxious when approaching an individual. So far I see an improvement within myself already and I hope to be even better at the end of my placement.

## **4. Work Performed**

### **a. Description of work undertaken and the projects assigned. Discuss the projects worked on since joining the company and include a review of both technical and soft skills utilized and or developed.**

As I started my internship I have been involved in a number of projects. Primarily the work I have carried out would be in regards to Bookmarking and Export to PDF which work together with Design Studio. These two are major topics and I have contributed to both. Initially when I started I was given code in regards to Bookmarking to refactor (see Appendix 3). I was also asked to create trace tests (see Appendix 4) and Junit tests (see Appendix 5) which govern the written code and made sure the code didn't return any failures or errors. This whole refactoring and testing process was carried out with another intern and was considered pair programming (see Appendix 6). This greatly increased my communication and teamwork skills and helped me grow in confidence in regards to my work and my attitude towards other people.

I was then instructed to refactor code for Bookmarking and Export to PDF together. This work was crucial as it involved moving and cleaning up code and involved interacting with the senior developers for each of the corresponding topics. As I was working on these tasks alone, my technical programming skills experienced a huge boost not to mention my communication skills.

During the placement, another intern and I were asked by the scrum master (see Appendix 7) to produce a video for a team working on the same product in Bangalore. This video involved setting up the development environment for a certain product which the Bangalore team had never done so before. This was a great opportunity to try something new. The whole process consisted of setting up meetings with the other intern. The length of time given to produce such a video was only 4 days and hence my time management skills were greatly improved considering I was under immense pressure in order to complete my other tasks as well as the video.

As I moved myself to Export to PDF, I have since then refactored much of the Javascript code and have started on implementing new features for the product itself such as printing an application and modification on how to export a PDF. My programming skills in regards to Java and Javascript have been improving since the time I started working with this topic considering it involves working with the two languages. The amount of people I've had to interact with in order to fully become accustomed to Export to PDF has led me to become very confident with my communicative skills.

I also had the opportunity to demonstrate my Export to PDF tasks and feature work which I had been working on. My presentation skills due to this have become very proficient and I have become even more confident in the work I produce. The feature work which I worked were also documented and I worked with the person in charge of documentation to make sure the correct changes were noted in regards to documentation.

### **b. Discuss technology learned and how it related to course work completed within the DIT.**

Eclipse is the development environment which is primarily used in regards to my everyday work in SAP. Object Oriented Programming in second year had been very useful considering much of the module was carried out in Eclipse. Java is the language that was carried out in Object Oriented Programming and it has been highly beneficial as SAP uses it. Gerrit is also another technology which is a place to submit code to and it very similar to Git and GitHub



which I was introduced to in Object Oriented Programming module. Design Studio has been the new technology which I have acquired in regards to building applications and editing the code with Eclipse.

Many times throughout the placement, class diagrams and sequence diagrams have been mentioned and all three modules which I attended in regards to Software Development throughout the second and third year semester one have been extremely useful. The client and server models during Client Server Programming from third year semester one have been extremely beneficial in proving the knowledge for a client and server which I need when working with Export to PDF. Web Development modules in first and second year which involved Javascript and CSS knowledge again have come into use considering I have had to use these in Export to PDF.

## 5. Critical Analysis

### a. Reflection on work recruitment process.

- i. What have you learned from the recruitment process?
- ii. Experiences writing a CV and would you change it?
- iii. Interviews and what you would you do differently the next time you were interviewed?
- iv. What suggestions do you have to improve your preparation for internship?

The recruitment process had me brimming with anxiety considering I had never before worked in a company. The first few stages whereby the students were informed on what an employer seeks made me think from an employer's perspective. The whole process also involved preparing possible question and answer sessions which I did not find to be challenging considering I had work experience from beforehand and had been interviewed several times. The process also made me realise that preparation is key, one cannot attend a successful interview without doing enough research in regards to the company. This, for me, had been the difference between passing and failing the interview. The CV preparation classes I found to be the most important throughout the process. I have learned very important lessons on how to tailor the CV and the impact that each content has when it comes to recruitment. I catered my CV in regards to a development role and fortunately I also was able to achieve such a role too. The outcome that I actually have a placement corresponds to the fact that the recruitment process had been extremely useful in regards to me and I am extremely grateful that I attended each and every class.

My experience in regards to writing a CV had been generally positive yet not so much when I was first asked to produce one. Gradually as I looked over the material provided in-class, I was able to pick out the key points which I decided to include in my CV. The projects I chose for my CV were selected as to reflect the different skills and abilities and experiences I have acquired in the field of development. Yet the only thing I would consider doing different next time would be to include less in regards to game development and more when it comes to app development.

After landing two interviews and attending them, I would consider both experiences to be highly informational in regards to what a typical interview with a company entails. I had never been interviewed by a company before and this made me realise how different the interview process is in comparison with any other interviews. The first interview with Ocuco was surprising yet I found to be unpleasant considering I was the last person to be interviewed and the interviewers seemed exhausted. The interview with SAP on the other had was much more pleasant and I was more entertained than so anything, it was an enjoyable experience as it didn't at all occur to me that I was even attending an interview. These both interviews have made me realise that knowledge about the company and information in regards to the products they work on is key. Being confident during an interview is another major factor and one's body language is crucial in displaying so. The changes I would make in regards to next interview would be to expand my technical knowledge. I performed very well in regards to human resources interview yet I would like to better myself in the technical aspect of the interview.

Yet when it comes to preparing for an internship, I would suggest being less anxious, as I was

very anxious before I started and even more so during the induction day. Another suggestion would be to brush up on the technical skills before starting the internship as it would be a great way to enter the internship with refreshed knowledge. I hadn't refreshed my technical skills yet the first month mostly involved catching up to what the other developers were working on and this gave me enough amount of time to actually modernise my technical knowledge. I wouldn't do anything different in preparation for an internship except for refreshing my technical skills as the start of the internship did not trouble me any way whatsoever.

**b. Identify and discuss the following: insights gained about yourself, the interview process, skills acquired (both technical and soft), what would you do differently (this can include comments about your CV as well).**

The insights I gained about myself is that hard work is quite essential. The interview process had been similar to attending an exam and if preparation had not been done so beforehand, then passing the exam would be extremely difficult. I considered the interviews as challenges and tailored my knowledge and preparation in regards to each company. Ocuco was quite difficult to research on yet SAP was much easier. Both interviews had been extremely informative in regards to my growing curve as I uncovered the experience and knowledge that an interview entails. Ocuco interview gave me a greater experience and I applied all my knowledge onto the preparation of the SAP interview. I had never researched a company as I did so for SAP. I also hadn't prepared much of the employer questions for Ocuco and this led me to really emphasise this aspect for the SAP interview which turned out to be very rewarding for me.

The skills acquired in regards to the recruitment process and currently working on my placement altogether have been immense. I had never been very confident in my programming nor my technical skills yet working on an internship has boosted my level of confidence. I have also realised that I have become more confident and outspoken, two qualities which I did not have a much high performance for. Interacting with team members and colleagues in my internship have been very beneficial as I have become less anxious and less quiet, which I consider a huge step forward. I've also become part of the Business Women's Network, a group for women in computer science, in SAP which has exposed me to more people and especially women alike. I believe this has had a great effect on me as I interacted with people I had never done so before. My presentation skills have also been highly developed as I have had the chance to demonstrate my own work which I had been working on. I am certain I would not have gained these skills if I hadn't been offered an internship.

Since I'm a clumsy individual, the things I would do different would be to double check before doing anything. At times I have asked for help at my workplace yet realising at a later date that the answer was right "under my nose". This did increase my communicative skills but it also aggregated me to become more confident and less anxious. I would consider this a positive outcome from a negative one. Overall I am thankful that I have less things which I would change in regards to myself and the internship.

**c. Reflection on the benefit to the company of the internship.**

I consider that the company would be benefiting heavily from interns. The interns provide an extra hand per se for the developers and the workers at the company. The company also has

the opportunity to bring in new employees to an environment which the interns had never experienced before. I had never experienced a developing environment before and currently the one I have been exposed to has been extremely enjoyable. Having new interns inside a company is considered to having fresh brains with new ideas which can be progressive for the company. I believe this also gives the company the opportunity to present to the interns the benefits that the company has for their permanent employees. This can encourage one to apply for the company after the internship and hence the company gains even more employees and results in expansion. Above all, I am very sure that an internship is beneficial to both parties considering the internship gives the company exposure to talented newcomers and the interns gain the first-hand experience a developing company undertakes.

**d. Discuss the differences between working in an IT company and the college environment and what this experience has been like for you.**

Working in an IT company has been less exhaustive in comparison with a college environment. I feel that the college environment isn't as practical as an IT company is. I have also realised that a few modules that I undertook during college have no relevance whatsoever to the current IT company I am working in. I have found the working environment experience to be immensely better as there is no assessment nor any exams which need to be undertaken. No one needs to inform others to complete their work, the work is mostly done in a two-week period. The two-week period is referred to as a sprint and at the start are the tasks assigned and at the last date are the tasks demonstrated. I have found all the team workers to be reliable and have no complaints about anyone whatsoever, in comparison to the college environment, whereby teamwork usually never was executed so successfully.

I have also noticed there is no pressure to complete the tasks at work and when the pressure does arise, I find it challenging and rewarding. The college environment never really did create the pressure to be enjoyable. Also not every authoritative figure was very informative and nor so clear in college, whereas in my current company there is no individual who is not willing to help. I find this environment to be ideal and much more productive and very progressive in comparison to the college environment.

## **6. Conclusion**

My internship experience so far can be summed up in one word: enjoyable. I have gained a great new insight in regards to myself and the work I am carrying out within SAP. I have also realised what a working environment entails and how different it is in regards to a college environment. The recruitment process had been a superb experience and the internship experience even better. The work which I have undertaken at SAP is practical work which is implemented into actual software. The new skills which I have gained while being at SAP have developed me as a person and hence have enhanced my productivity and contribution levels to the everyday work carried out.

## **7. Appendix I – supporting material**

Appendix 1: Feature work is implementing a new functionality within the product.

Appendix 2: Downporting means to make the current code compatible with a lesser version.

Appendix 3: Refactoring involves restructuring existing code for the purpose of code readability and less complexity.

Appendix 4: Trace tests are used to record information in regards to a program's execution. These are used for testing purposes.

Appendix 5: Junit tests are used for Java testing and make sure the code is executed successfully.

Appendix 6: Pair programming is a technique whereby two programmers work at one working station. One writes the code while the other reviews the code.

Appendix 7: Scrum master is the coach of the team and is considered in helping the team perform the highest of levels.