COMP3850 Project Deliverable Certificate

Name of Deliverable	*Deliverable 5*
Date Submitted	*02 / 06 / 2022*
Project Group Number	*18*
Rubric stream being followed for this deliverable (highlight one) *Note: the feasibility study has the same rubric for all streams.*	*SOFTWARE Rubric* *GAMES Rubric* *CYBERSECURITY Rubric* *DATA SCIENCE Rubric*

We, the undersigned members of the above Project Group, collectively and individually certify that the above Project Deliverable, as submitted, **is entirely our own work**, other than where explicitly indicated in the deliverable documentation.

INITIALS	SURNAME	GIVEN NAME	STUDENT NUMBER	SIGNATURE (IN-PERSON OR DIGITAL)
EH	*Horvath*	*Erik*	*46042628*	
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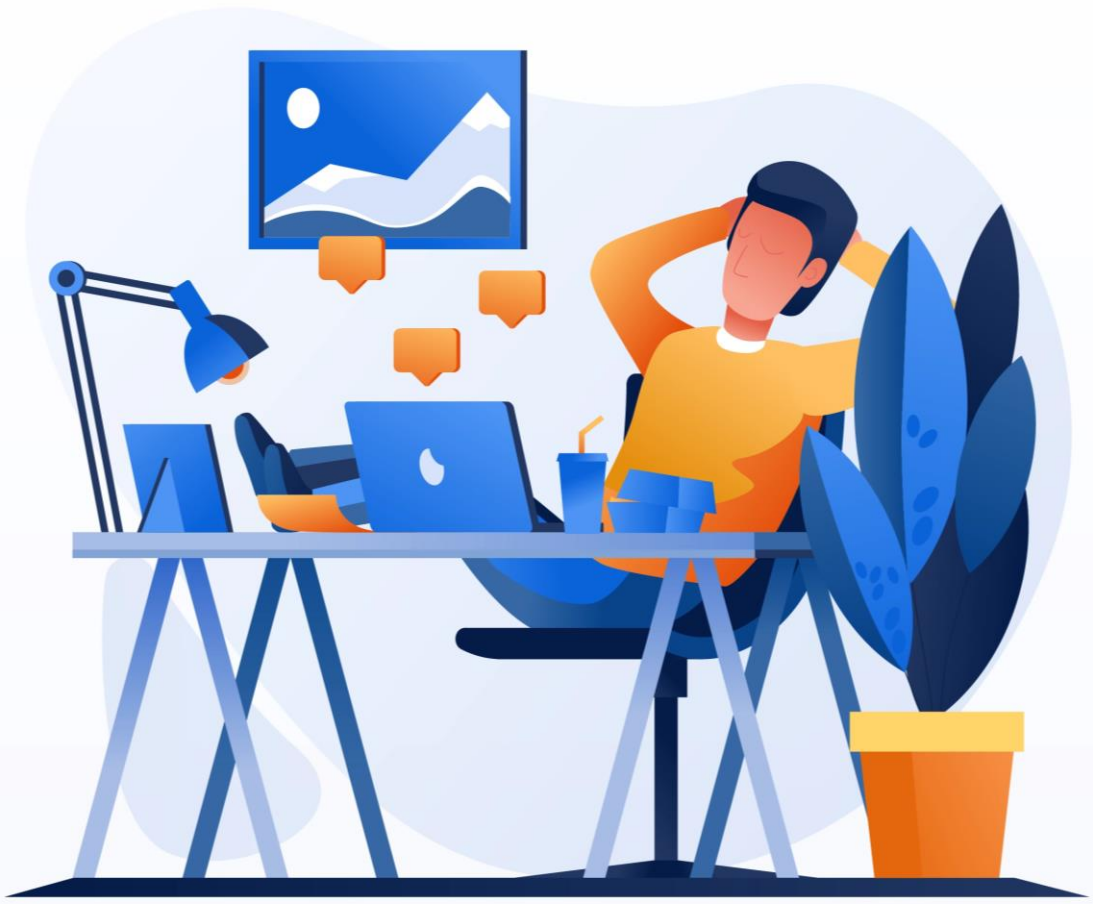
LT	*Te*	*Lance*	*45581819*	

NB: please write all details clearly (if handwritten).

List of tasks completed for the deliverable and activities since last deliverable certificate with totals for each individual team member and whole team

Performed by *(Student Names)*	Duration *(hrs)*	Complexity *(L, M, H)*	Name of task	Checked by *(Initials)*
Lance Te	2	L	Proofread / edit D5	
	0.5	L	Formatted D5	
	3	M	Sponsor and team meetings	
	1	L	Team dinner	
Total	6.5			
Sepehr Torfeh Nejad	4	L	Proofread / edit D5	
	3	M	Sponsor and team meetings	
	1	L	Team dinner	
Total	8			
Erik Horvath	2	M	Introduction	LT
	2	M	Conclusion	LT
	3	M	Project planning section	
	3	L	Sponsor and team meetings	
	1	M	Proofreading	
	1	L	Team dinner	
Total	12			

Performed by *(Student Names)*	Duration *(hrs)*	Complexity *(L, M, H)*	Name of task	Checked by *(Initials)*
Marcus Ikeda	5	M	Planning / writing D5	ST
Total	5			
Rojwal Shrestha	2	L	Brainstorming D5	
	3	M	Writing D5	ST
	3	L	Sponsor/Team Meetings	
	1	L	Team dinner	
Total	9			
Team Total	34			



Reflection

FÆTHM

Lance Te, Sepehr Torfeh Nejad, Marcus Ikeda, Erik Horvath, Rojwal Shrestha

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1. Introduction

This semester, us five students from different backgrounds, experience and skill sets formed a team with one common goal; to work together to deliver a project that would set us apart from the other teams and impress our partner. COMP3850 set the challenge of combining the technical knowledge we have developed during our degree with the real-life practical experience of working together with a tech business, 'Faethm AI'. Faethm AI is an industry leading SaaS based platform delivering predictions about the future of industries using the power of artificial intelligence. Their mission is to prepare workers from all industries from the effects of emerging technologies that may change the way in which they do business. Faethm tasked us with creating an application to onboard new users and provide them with the sign-up experience. The goal of our project was to deliver a product that would gather useful information about the customer so that the Faethm application could provide a more individualised experience for the user. Ultimately the objective was to learn to work together with a real business and apply our knowledge.

In this reflection we will discuss in detail how our team approached the project planning including our actions, the results, the points for improvement and how we utilised the diverse skill sets within the team to create the best product we could. This reflection will further discuss the requirements of the project and our analytical process to address the task. We will also elaborate on the design choices we made for the application, what we believe we did well and what we could improve on. Further, we will dive into how we implemented this project and ensured a seamless integration with the existing Faethm AI architecture. We will also discuss what we have learned, what we liked and our recommendations for future students.

2. Project Planning

Most of us knew very little about each other when we first started this project so the first thing we got together and discussed as a group was what sort of experience and skills we all had. After the first meeting, we already had a strong understanding of where everyone could benefit the team the most and had divided ourselves up into roles. The idea was that everyone would be equally responsible to ensure that work is being done, but that additionally, based on our experience we would be able to lead the team in different ways. We had split ourselves into roles such as Team Leader, Lead Developer, Documentation lead and Editor. We knew that the key to success within this PACE unit was to maintain strong communication and to stay organised. Straight away we had established weekly zoom meetings with our team as well as a separate meeting with the Faethm team which we maintained throughout the entire duration of the semester. We created a collaborative communications channel using discord which was extremely useful as it provided the ability for team communications, notifications, reminders and document sharing. This was the foundation for staying organised and ensuring everyone is on the same page.

The project was divided up into several bite sized deliverables where every two to three weeks we would submit documentation to report on our groups progress and complete the required works. Once a deliverable was submitted, the next deliverable would be discussed in the following group meeting. First, we would discuss the deliverable to ensure we all agreed upon how we were going to proceed and then discuss the deliverables' timelines and expectations. The primary concern was how to split up the task to ensure that we would be utilising the teams' skillsets most effectively while still ensuring that the workloads were spread evenly. Once the task division was completed, we would look to progress individually, while still being able to call upon each other for advice and then reconvene again in the weekly meeting to discuss our progress. The Faethm team was consistently able to provide productive feedback in our weekly meetings and guide us on our way to ensure we kept on the right track. We provided them with our progress updates and in turn the Faethm team would provide useful insight and suggestions.

Ultimately, we believe that we did a great job of staying organised and utilising not just the broad skill sets of our team members but also the Faethm team to ensure that we could deliver a high-quality product and we believe that our marks accurately reflected our efforts. If we had to pinpoint areas that could be improved, the common recurring theme in the weekly reflection submissions would be that we needed to set an earlier deadline on individual tasks so that there was enough time left to compile everyone's work and ensure it flowed smoothly without being pressed for time in the last day or two before submission dates. The effective use of the reminders and weekly meetings ensured that everyone was held accountable and that there were no excuses to miss deadlines without good reason.

3. Requirements and Analysis

Some of the services contained within the Faethm application proved to be non-consequential to particular users. We were required to apply some degree of customisation to the dashboard for the user. We used the FTU (First Time User) experience to capture all essential user data which would allow us to personalise the user's dashboard accordingly while also capturing the user's attention and keeping them engaged. Our sponsor further aided us in that matter by supplying us with a set of predefined personas which would enable us to determine the user's use-case in the Faethm application more precisely. With the help of these personas, we were able to categorise the user base which would further ease our goal of achieving user customisation.

Through multiple discussions, our lead developers then established that the 'personalisation' criteria are a hefty task which would require us to develop complex algorithms on our own or use AI to translate the user data and categorise them. We have since employed a substitute algorithm which does the job but not to the level, we had first envisioned. 'Personalisation' proved to be the biggest hurdle in the development of the project but other equally important requirements came along smoothly.

The new design for the landing page/dashboard took elements from the current Faethm website and has no problem with compatibility as it was developed using the MERN stack. Another functional requirement was to implement a 'login' functionality. This was an essential measure needed to ensure that only authorised personnel could access the Faethm application. This functionality was indeed implemented in accordance with the current user interface of the Faethm application so as not to confuse previous users.

4. Design

Users have grown accustomed to efficient user interfaces and every extra click adds to the risk of losing a user's attention towards a certain service. As a result, captivating the user has been one of the most crucial standards when designing a product or service for all developers within the past few years. One of the main objectives of our project was to 'customise' the current Faethm dashboard to capture the user's attention while also smoothly introducing the various services the application has to offer. Furthermore, the current approach for 'signing up' for the application appeared to be in need of improvement thus we were assigned to deliver a solution that was satisfactory to users all the while retaining their interest for business in the future.

We judged that directing the user straight to the dashboard was ineffective hence we split the application into landing page, login and dashboard. The landing page is meant to be simple welcome and direct the user to the main application but only after authentication. The authentication is done in the login phase where the user is required to provide their valid email along with their password. Once the user is authenticated, a JWT (Java Web Token) is stored in the database and the user's local cache which ensures their session is still valid while using the Faethm platform. Before the user reaches the dashboard, we have to establish whether they are signing in for the first time. If the user is signing in for the first time, they are required to finish a survey. This survey determines the category of employee or persona the user belongs to. These categories of personas were supplied by the sponsor themselves. Moreover, the survey determines the user's use-case. Finally, the data extracted from the survey is then translated by an 'algorithm' which customises the user's dashboard, presenting them with select services that are relevant to their enterprise.

5. Implementation

For this project, we were required to implement software that would allow Faethm to collect data on their users based on results collected from a survey. This data is then collated into our database and used to provide a more personalised service for their users. To accomplish this, we implemented a form where users complete a survey which is then sent to the backend, stored in the database, retrieved, and processed to design a custom dashboard for the user. We developed the application using the MERN stack as per Faethm's requirements.

We intended for the platform to be scalable so that Faethm are able to use and build upon the application in the future. Other solutions we had scaffolded and proposed would not be as viable, providing limited scalability and proving difficult when implementing with the rest of the Faethm application.

The implementation of the chosen design also benefited from vague familiarity with the MERN stack. Without this experience, we would have had to invest a significantly larger proportion of our time to learn the necessary skills to make this solution viable. This would have slowed down the development process and may have led to complications in developing the system.

We approached this project using an agile approach as determined before the project began. This was to allow for changes to be made to the specifications that Faethm could request or if we wanted to change our approach in developing the software. We ended up also developing prototypes to model the functionality of the system that we were developing. The prototypes that we created were beneficial towards maintaining communication between developer and client and were essential to maintaining communication by enabling constructive feedback during the development style which was beneficial due to us using the agile approach, allowing us to quickly make adjustments when needed. This is favourable compared to any other development approach we could have used and is what facilitated a smooth implementation of the planned solution.

Overall, we provided a minimum viable product and we were able to incorporate the feedback that we were given into the project as the development cycle progressed allowing for the software to be successfully implemented.

6. Learning Outcomes

The key learning outcomes that were set out before we began development on the project was to gain practical experience in working in a team environment under the guidance of professionals working in the industry. To succeed, we needed to manage the workload of the project between the members of the group to achieve what was required by the client. It was key for us to maintain good communication between team members to ensure that we would be able to output the work expected by the given deadlines. Time management proved to be a struggle at times and finding times to meet with the team where everyone was available was often challenging. This could have potentially impacted our ability to maintain quality work or being able to submit work on time.

Since we maintained a consistent schedule with our work and were in general able to regularly complete the allocated work on time, we were able to maintain good communication with Faethm throughout the project. This communication was reinforced through regular weekly meetings confirming the progress of the project, and reporting any work that has been done. Another benefit to this is that we were able to meet any changes that Faethm would want to the work we do. Since these meetings occurred every week throughout the project, we were able to quickly implement any required changes as soon as they were requested. In general, communication was probably the most important factor in ensuring that the project was successful.

7. Conclusion

This semester brought us all valuable experiences, teamwork skills and knowledge as we worked to create an application and complete all the deliverables. Not only were we able to take advantage of the broad range of skills within the team but we were also able to learn from each other and from the Faethm team. Some of us were stronger at coding and were able to share their knowledge with the other team members while others were stronger at writing documentation and able to share their insights as well. Keeping the regular communication within the team and with the Faethm team created a collaborative environment where everyone was engaged and brainstorming together to constantly improve the project and ultimately gave us valuable insight into the operations within a real SaaS based business model. The PACE unit provided the opportunity to look into a variety of aspects within application development including the foundational architecture, design, requirements, project management and teamwork. The element of working together with a real business added an extra challenge and raised the stakes to motivate us to deliver a quality product. Our recommendations for anyone looking to take on this unit would be to establish clearly defined roles and responsibilities within the group, create regular weekly catch ups with the team and the business partner and to always give yourself more time than you think you need on the deliverables. We are glad to be nearing the end of what has been a more stressful and time consuming unit during our time at Macquarie but at the same time we are appreciative of the experience and opportunity to gather further experience for our futures.