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### Ceshia Williams: Reference Letter

Ceshia Williams has won a three-month Software Development Internship spot at Codebow Labs Pty Ltd for the three available internships spots available at the time, competing in amongst other applicants. Ceshia worked as *Software Engineering Intern* during the period of February to May 2021.

The goal with our internship, is to assist graduate software engineers to bolster their skills and gain critical experience in preparation for a career in software engineering, whilst applying themselves and contributing to a real-world software application.

Codebow Labs is a boutique software engineering consultancy assisting several local and international clients in software and embedded engineering projects. Ceshia Williams reported directly to me, the founder and director of Codebow Labs.

Ceshia has been assigned:

1. the initial task of **researching specific AV (Audio visual) product specifications**,
2. to make summaries of these product and technical specifications,
3. transfer and capture the technical product summaries into **JSON-compliant data structures** in files that were feeding and consumed by an Angular Front-End and C# REST API Back-End PROTOTYPE portal.
4. To extend the existing Swagger **REST API** to accept the authorisation token on the Swagger Portal pages.
5. To **extend several existing REST API** services that would filter and return data stored in JSON-compliant files as in (3).
6. To **create new REST API** services.

Ceshia Williams has been:

7. Introduced to, and the team worked using **Scrum Agile methodology**.
8. Presenting herself professionally during our daily stand-up, online meetings and always ensured she is available on-time for these meetings.
9. Successfully using **JIRA** in reviewing, updating, and creating tickets of work assigned to here.
10. Introduced to **Atlassian's Confluence** and she has delivered several well-written WIKI entries to document **HOW-To** pages that were to be consumed by other developers in the team.
11. Using our **Entity-Relationship (ERD)** diagram of our data warehouse for our prototype **PORTAL**. This relational data warehouse contains 20+ different entities with complex one-to-many and many-to-many relationships. She was comfortable reading, interpreting and understood our relational data warehouse well.
12. Successfully adding new **JSON-compliant syntax data** into our data files relating to the relational entities in our data warehouse. Ceshia, at the end of this exercise, could comfortably read, update, and create JSON related data structures for our data warehouse for complex objects.
13. Working using **Visual Studio, Visual Studio Code, GIT** and **github.com** as software engineering tools to edit, update and add new code. She comfortably **created feature branches** off our main development branch, **committing and pushing new code enhancements**, and create **Pull-Requests (PRs)** on **github.com** for here assigned tickets.
14. Successfully **extending our existing Swagger API** implementation to automatically generate and include authorisation token as required by our REST API services.
15. Successfully **extending existing REST API Services** in our **C# back-end** using a combination of LINQ queries in some of the more complex services.
16. Successfully **creating new REST API services** in our **C# prototype back-end** meeting similar engineering standards as existing REST API services.
17. Able to navigate her way around our Angular Web Front-End and C# Back-End prototype application.
18. Required to demonstrate here work in our Agile Scrum demo team meetings, using the correct technical terms.
19. Required to resolve some of her own technical difficulties by researching and using online resources. She has done this successfully in several instances, and with some help from team in others.





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Registration No: 2013/189287/07

We were excited to have this young talent joining our team for the duration of the three-month internship. Although this internship was a non-paying one, we have agreed to pay her an internship stipend for her final month, as a reward for her solid contribution.

I am sure that Ceshia Williams will be a valuable member to any software engineering team and the skills and experience gained will put her in a fabulous position to excel in future opportunities. I am looking forward to seeing her establishing herself as a true software engineering professional.



Andrew Cardoza

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