Turtlebot Software for Schols Outreach

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Abstract

The abstract stands alone as a very short version of the dissertation.

The abstract should state the scope and principal objectives of the project, describe the methods, summarize the results and state the principal conclusions.

**(Max. 500 words.)**

Declaration of originality

I confirm that:

* This submission is my own work, except where clearly indicated.
* I understand that there are severe penalties for Unacceptable Academic Practice, which can lead to loss of marks or even the withholding of a degree.
* I have read the regulations on Unacceptable Academic Practice from the University’s Academic Quality and Records Office (AQRO) and the relevant sections of the current Student Handbook of the Department of Computer Science.
* In submitting this work, I understand and agree to abide by the University’s regulations governing these issues.

**Name:** Cate Fitzpatrick   
**Date:** dd/mm/yy

Consent to share this work

* By including my name below, I hereby agree to this thesis being made available to other students and academic staff of the Department of Computer Science, Aberystwyth University.

**Name:** Cate Fitzpatrick   
**Date:** dd/mm/yy

Acknowledgement

To whoever has the patience to read this :-)

This section is customary, but not obligatory. It makes a brief statement of thanks to those who have helped.

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1. Introduction

Background to the project, motivation, leading to project aims and objectives.

* What problem was tackled?
* Why was that problem tackled?
* How (in outline) was the problem tackled?
* Clear statement of project aims and objectives.
* Guide to subsequent chapters.

1. Literature review

The literature review is all about the related knowledge that you are building on. Similar products and related research are usual.

Remember to use your own words and to show relevance to your project aim.

The literature review will refer extensively to the bibliography. Harvard (author-date) and IEEE reference styles are usual in Computer Science, but the only real rule is that you should use a consistent style.

Here is an example reference to inky matters [1]. Also, put appropriate reference for the use of Generative AI in your report [2].

Refereed articles are generally considered to have the greatest authority, but for a Computer Science project you are also likely to cite other sources, such as technical documents, user manuals, standards documents, web pages and books.

When you cite a web source, make sure to include the date of access.

* Similar products/projects + relevance to own project aims/objectives

1. Reporting on the project – the core chapters

Reporting on the project will normally require more than one chapter.

A development project is likely to have chapters addressing requirements, design, implementation, testing and packaging if a plan-driven method is used. If an agile approach is taking, you might have a chapter for each sprint or iteration.

* Requirements/ changing of them -plan based though flexible to add in new features
* Design – class diagrams etc
* Implementation- how (see diary)
* Testing (test table!)
* Packaging

You are likely to include diagrams or images in your core chapters (see Figure 1.)

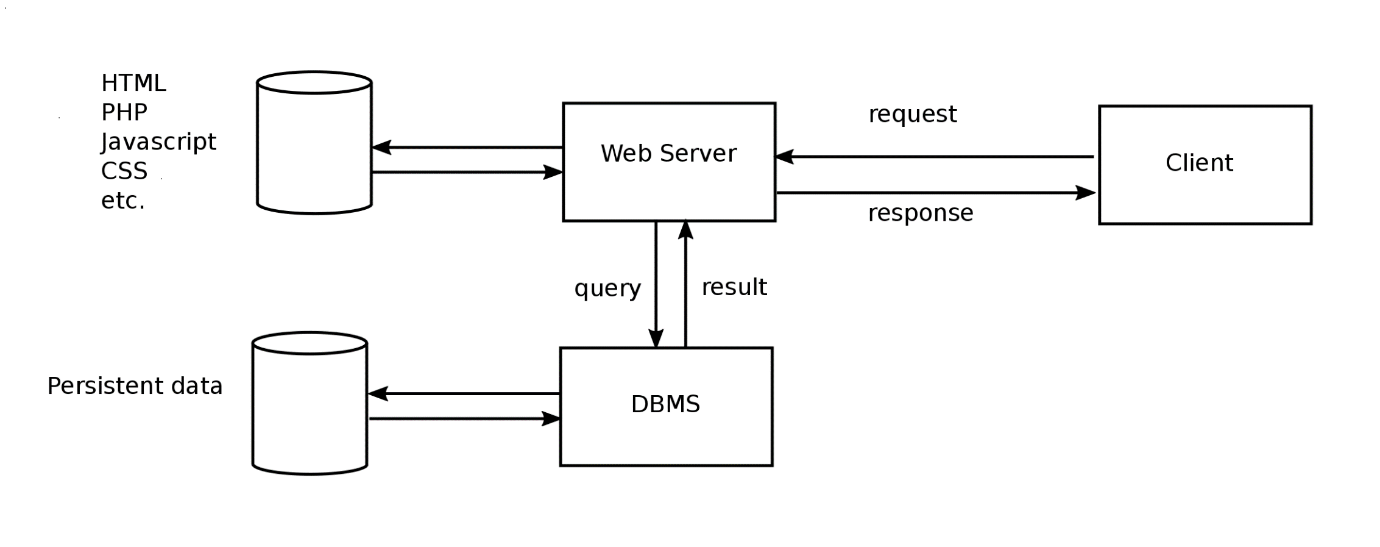


Figure Structure of a dynamic website (Edel Sherratt)

You can refer to your figure from more than one place (Figure 1.)

1. Critical Evaluation

The critical evaluation consists of a discussion, leading to conclusion. It is an essential part of a master’s degree.

It shows that you can not only carry out a substantial piece of work, but that you can reflect on it, and think critically about how you might have done it better.

Examiners view the critical evaluation as very important.

Critical evaluation should contain

* Strengths and weaknesses of your project
* If you were unable to attain any deliverables, then why
* What are the future plans for your project if you are to continue

You will be presenting this during demonstration but here you need to discuss them in details.

1. Conclusion

A brief summary of all that has gone before, including the key results of the project.

May also include some directions for future work.

# References

|  |  |
| --- | --- |
| [1] | I. Jones, “New kinds of red ink,” *Inky Journal of Pigments,* vol. 336, no. 5, pp. 55-58, March 2010. |
| [2] | M. Copilot, *Prompt: What is green IT, https://www.bing.com/chat,* Accessed: 24 February 2025, 2024. |

Appendix A

Generative AI

1. No AI was used for the project.

Third Party Code and Software Libraries

1. .NET’s ASP.NET libraries have been used for this project. The document template created by the dotnet CLI tool produces a set structure for the Model-View-Controller parts of the project. The CLI tools were also used to generate the Entity Framework Core code in most Controllers. The CLI generated code was then adjusted to make it relevant to this application.