The Development of an Accessible Web-based Quantum Transportation Device for Older Users

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***Abstract* -** *The abstract (or ‘executive summary’) is an important part of your report. In essence, it is a summary of the purpose, methods, findings and conclusion of your project. Ideally, it should be no more than 200 words. It should be clearly and concisely written. Provide only the most pertinent information, avoid citing references and include a brief statement of your main conclusions.*

# Introduction

This section should introduce the project. It should include an explanation of the problem and the objectives of the project. It is very important to give a clear description of what the project is actually intended to do, preferably in non-technical terms.

The report as a whole should include a clear description of the lifecycle stages undertaken and must describe the use of appropriate tools to support the development process. It should give a full and accurate description of the work done and achievements made, together with complete software documentation. Every effort should be made to provide a professional, quality description of the work. Proofread carefully for grammatical, spelling and punctuation errors or inconsistencies.

The report should be formatted as a justified, double-column, single-spaced, 10pt Times New Roman font document using an appropriate word processing system such as Microsoft Word, OpenOffice or similar and converted to a PDF file. With your report you should aim not to exceed 15,000 words or 15 pages in length (excluding appendices) but ask about this if you have any questions. What is required is quality rather than quantity. The general layout of the report should follow this example document *although the number of sections and their headings will vary from project to project*. The report should be written in a formal style: it is neither a diary nor a magazine article. All pages should be numbered. All references should be cited in the main body of the report and a standard referencing format (such as IEEE or Harvard style) should be adopted [1, 2]. The report should demonstrate that the student has used appropriate tools to support the development process and that verification and validation have been applied at all stages [3].

Ideally, the report should be written in third person, e.g. “***The project team*** *discovered that algorithms are fun…*” or “***It*** *was discovered that algorithms are fun…*” rather than first person, e.g. “***We or I*** *discovered that algorithms are fun…*”. It is common to write the report in a past tense but in the case of ‘person’ and ‘tense’ it is important just to be consistent throughout the report.

# Background

This second section would normally include a review of relevant literature and any similar products. The project should be placed in a wider context and this could include the scientific, technical, commercial, social and ethical context.

# Specification

You might choose to devote Section 3 to a specification of the problem and an explanation of how you arrived at this specification. An initial work schedule including an overall project plan with time-scales, deliverables and resources should be included in the report.

# Design

You should include descriptions of the (user-centred) design methods employed to produce a usable product, including rapid prototyping, usability methods, results and re-designs as appropriate. Design decisions and trade-offs should be described, e.g. when selecting algorithms, data structures and implementation environments and tools or when designing for usability. You can refer to equations if you need to, such as Equation (1) (sample format below).

*E = mc2* (1)

You may wish to use some figures or tables such as Figure 1 and Table 1 below.

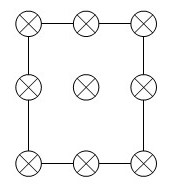


Figure 1. A diagram of a relevant pattern

Table 1. Performance of method A

|  |  |  |
| --- | --- | --- |
| **Test data** | **Error rate (%)** | **Time (sec.)** |
| *Set 1* | 70 | 3.1 |
| *Set 2* | 74 | 8.0 |

Figures and tables should include captions and should be referred to within your discussion, e.g. *see Figure A below*. It is also important to explain the content of the figures and tables to the reader rather than having them deduce what you intend them to get from them.

In general, it useful to include figures or screenshots, etc. within your report where applicable to help break up the text and to illustrate your discussion.

# Implementation and Testing

You should describe important aspects of production, testing and debugging. You may wish to describe the main features of the application and/or the main sprints that you went through. Consider how you planned your work during this time. Did you have to prioritise things, did you have to adjust your plans, how did you respond to client feedback? Please discuss examples of your code that you are particularly pleased with and/or which were challenging to solve. You can include snippets of code or algorithms to illustrate your discussion. Please discuss any testing performed (e.g. unit testing) and ideally provide evidence of this in your report and/or appendices.

# Evaluation

In this section you should describe how you evaluated your system. Did you make considerations for user-centred design throughout the project, did you adapt and evolve your prototypes, designs and final system based on user feedback?

There should be a final evaluation of your system involving external users / participants. You should describe how the system was evaluated, the ethical process you adopted, what the results of the evaluation were, and a discussion of the results, e.g. what do they mean, are they significant, is there anything interesting or unexpected, and are there any limitations in the conlcusions that you can draw?

## Other evaluation criteria

Other evaluation criteria can be considered where applicable to the project, e.g. considering the performance or scalability of your system.

# Description of the final product

A clear description of what the final product looks like and what it does. This is vital but often neglected.

# Summary and Conclusions

Summarise the main points of what you have achieved in your project and the main conclusion(s) that can be drawn. This should include a critical appraisal of the project where you reflect on any lessons learnt during the course of the project with the benefit of hindsight, e.g. would you do anything differently if you could do the entire project again? Did all of your decisions work out? Did your project go according to plan? What would you recommend to others? Please also consider what the main learning outcomes have been for you from the project. Finally, you should also make recommendations for future work.

## Acknowledgments

Please provide any acknowledgements that you wish, e.g. the author(s) would like to thank their wonderful supervisor and also their pet budgie for all their support.

# References

Please provide the list of references you have consulted for your project in a format such as below. Please ensure that you refer to these within your report (see examples in Section 1 Introduction).

[1] J. Bloggs and A. N. Other, “Creating the perfect project”, International Conference on How to Get a First Class Degree, Dundee, UK, 2020, pp. 1-6.

[2] M. Mouse "A comparison of automatic thesis generation algorithms", *IEEE Transactions on Document Generation*, Vol. 1, No. 1., pp. 900-919, 2112.

[3] I. N. Stein, D. Rac and D. Duck, *Transdimensional Monte Carlo Estimation of Honours Project Probability Mass Functions: Theory and Application*, Auchtermuchty University Press, U.K., 2053.

# Appendices

The main body of the report should read as a self-contained document. However, appendices can be used for necessary supporting documentation. These should include a user manual and/or technical manual as appropriate, software, source code and minutes of your meetings *in electronic form only*. Hardcopies of appendices should not be submitted. Please ensure that the appendices are well-labelled and well-organised into a clear structure. Please also make sure that you refer to your appendices where appropriate within your report.