Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

School of Computer Science and Statistics

Project Title

Your name

Supervisor: Brendan Tangney

(* Co-supervisor: Iris Moeller *)

April 2024

A Thesis submitted in partial fulfilment

of the requirements for the degree of

Integrated Master of Science in Computer Science or .....

Declaration

I, the undersigned, declare that this work has not previously been submitted as an exercise for a degree at this, or any other University, and that unless otherwise stated, is my own work.

Include statement 1 or 2 as appropriate.

1. I did not make use of AI tools in the work described in this document, including the preparation of the document itself.

OR

2. The use made of AI tools in work described here, including the preparation of the document itself, is outlined in an appendix, as per the School guidelines. If relevant, use made of AI is also described in the body of the document.

Name

April ??, 2024

Acknowledgements

Abstract (one page summary)

Similar to the layout of the slides for the project demo.

A sentence or two on the board area (e.g. climate change/sustainability and the need to educate people about aspects of it).

A few sentences on your specific topic

Technology and learning. Need to create tools which can be used as part of an activity to engage learners.

Comment on existing tools.

Focus of this project. Design and eval of ……

Technology challenges.
Content area challenges.

Implementation. What was implemented.

Evaluation. Tested with N=20 TY students. Triangulation - data from multiple sources, {students, workshop leaders, domain experts, peers….}

Conclusion

Table of Contents

1 Introduction

A longer version of the abstract following the same structure.

1.1 Referencing

Sample reference Text text text (Aslan, 2021) said xxx
Suggest using EndNote (I can give a demo if needs be).

1.2 Ethics

The tool was used by (N=20) TY students for a period of 1.5 hours as part of a two-day workshop, within the Bridge2College programme, exploring different aspects of climate change. Ethical approval for researching different aspects of the Bridge2College programme had been granted by the School of Computer Science & Statistics.

1.3 What the 2nd Reader is Looking For

The two main things the reader is looking for are i) technical competence and ii) critical thinking.

i) Show off what you have learned in the degree about everything from user requirements through technical design and implementation to evaluation.
ii) Where possible don't just say what you did, but outline the options you considered and the rationale you used to guide the decision you made. See Figure 1.

2 Background (start each chapter on a new page)

2.1 The Content Area

Climate change in general. Sub-topic in particular.

2.2 Related Work

2.2.1 Climate Change Education (optional)

Possibly mention previous projects.

2.2.2 Existing Tools

Critique of other efforts to teach this topic.

COMPARISON CHART

	Engaging Visuals	Gradual Introduction of Variables	Comprehensive Educational Content	Replayability	Focus on Human Behaviour
Nat geo tool	●				
Trinity Tops Trash	●	●	●		
Waste Management Tool	●		●	●	
National Carbon Budget Tool		●	●	●	

Figure 1 : Example of a helpful table summarising and critiquing options

2.3 Summary

3 Design

3.1 Scope

In light of what was said previously what is the aims of work.

3.2 Pedagogical Approach

It is not intended that the tool be used in a stand alone fashion – although it can be. Rather it is aimed at use within a collaborative problem/inquiry based learning activity in which the learners (in teams) will engage with the content by completing some tasks which use the tool and present their findings to the whole class/cohort. There will be a whole class discussion in which the instructors would draw out wider learning objectives. See §5.2.

3.3 User I/F Design

Include initial designs (details in appendix if needs be).

3.4 System Architecture

Give an overview of the system.

3.5 Detailed Technical Design

Include a table such as Figure 1 when showing the options considered.

3.6 Summary

4 Implementation

Technical details. Could merge with section §3.5 if appropriate.

5 Testing and Evaluation

Explain the approach. Pilot. Usability of the S/W. Educational evaluation.

Acknowledge that the evaluation is limited but is as much as can be done within the scope of the project.

5.1 Pilot Testing

Peers etc.

5.2 Bridge2College Workshop

5.3 Usability Evaluation

5.3.1 System Usability Scale (SUS)

5.3.2 Post-Study Usability Questionnaire (PSSUQ)

5.3.3 Usability Results

5.4 User and Educator Feedback

5.4.1 Instruments Used

Describe how data was gathered.

Put the survey in the appendix, c.f. §8.1

5.4.2 Findings

5.5 Summary

6 Conclusion

6.1 Recap

Revisit what was said in the abstract/intro. How well were the goals achieved. What might you do differently.

6.2 Limitations

Always good to show you know the limitations of what you have done.

6.3 Future Work

If applicable.

6.4 Personal Reflection

Optional

What did you learn.

7 Bibliography

Aslan, A. (2021). Problem-based learning in live online classes: Learning achievement, problem-solving skill, communication skill, and interaction. *Computers & education, 171*, 104237.

8 Appendices

8.1 Survey Instruments Used

8.2 Use of GenAI in this Work

Description of how it was used in the preparation of the report, coding, design, background research or other aspect of the work.