

Lab Marking system

Heriot-Watt University

Final Year Dissertation

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Declaration

I, Lewis Francis McNeill, confirm that this work submitted for assessment is my own and is expressed in my own words. Any uses made within it of the works of other authors in any form (e.g., ideas, equations, figures, text, tables, programs) are properly acknowledged at any point of their use. A list of the references employed is included.

Signed: Lewis McNeill

Date: November 13, 2016

Abstract

The project aim is to develop a web application that will be used to improve marking of computing labs. The application will be designed to be used by Students to quickly know their grade, by Lab Helpers to easily mark labs and Lecturers to see marking immediately as it is done.

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1 Aims, Objectives and Project Description

1.1 Aim

The aim of this dissertation is to design and implement a system for the digital marking and analysis of computer labs, to help improve the speed at which they are marked

1.2 Objectives

- Simplify the way that labs marks are currently processed.
- Allow lecturers to create marking schemes on-line that lab helps can access and mark students against in labs.
- Develop a system that allows lab helps to mark labs using an on-line application.
- Allow students to see the mark they got from the lab instantly.
- Provide useful statistics and graphs to lecturers.

2 Literature Review

This section contains the current academic literature relating to the digitalisation of marking systems.

2.1 Digital Marking Systems

The aim of digitalising marking systems is to mirror current paper based marking systems but [1]

”What we want to achieve in our system is to provide a marking environment that mirrors these paper-based marking techniques plus takes advantage of the electronic environment”, *Online Marking of Essay-type Assignments* [1].

2.2 User Dependant Views

2.3 Data to Graphics

3 Requirements

3.1 System Requirements

ID	Requirement	Type	Description	Priority
R1	Test	Test	Test	Test
R2	Test	Test	Test	Test

3.2 Usability Requirements

4 Strategy for testing and evaluation

4.1 Testing

Throughout the development of the system, unit tests will be used to make sure that the system is robust and functional.

4.2 Evaluating

To properly evaluate how successful I have been at creating a new Lab Marking System I will conduct a usability case study. Lecturers, lab helpers and students will be asked to use the systems and provide feed back, to help evaluate the system and discover what improvements can be made to make it better.

5 Project Plan and Professional, Legal, Ethical and Social Issues

5.1 Project Plan

5.2 Risk Analysis

ID	Risk	Importance	Likelihood
R1	Test	Test	Test
R2	Test	Test	Test
R3	Test	Test	Test
R4	Test	Test	Test
R5	Test	Test	Test

5.3 Professional

5.4 Legal

There are multiple legal issues relating to this project. The most important one is the Data Protection Act, since the systems will be designed to store data about student I will have to make sure that

5.5 Ethical

5.6 Social

References

- [1] E. Heinrich, Y. Wang, *Online Marking of Essay-type Assignments*; 2003. (<http://www-ist.massey.ac.nz/MarkTool/Publications/EdMedia2003Onscreen.pdf>)
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- [3] J. W. S. Cassels, *An Introduction to Diophantine Approximation*, Cambridge University Press, Cambridge, 1965.
- [4] The GAP Group, GAP – Groups, Algorithms, and Programming, Version 4.5.6; 2012. (<http://www.gap-system.org>)
- [5] J. Howie, *Generalised triangle groups of type $(3, 5, 2)$* , <http://arxiv.org/abs/1102.2073> (2011).