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 for (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 15, 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 immedatly as it is done.

Contents

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.

And provide statics on how the class is proforming as a whole

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

Digital marking systems are designed to mirror current paper based marking systems but take advantage of the electronic enviroment [1].

2.2 User Dependant Views

2.3 Data to Graphics

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

Table 1: Functional Requirements

3 Requirements

3.1 System Requirements

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.

To evaluate how effective the code is I will create test cases. These will test how efficent the code is at running functions and help find areas for future improvement in the system.

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

5.1 Project Plan

The gantt chart for this dissertation can be seen in figure(1). It is broken down into 5 sections: Design, Development, Evalutation, Disertation and Poster.

Design Stage Starts at the end of semester 1 to allow myself time to complete other course work. In this stage I will create mock-ups for the user interface, a database schema and define what will be occuring in each of my sprints in the next stage.

Development Stage: Starts once the holidays are over. It consists of three two week sprints each it a weeks break inbetween to allow for write ups and other coursework. When the three sprint finishs I go straigh into the evaluation stage.

Evaluation Stage: on last for two week, in this period I will conduct a useability case study and write up the remainder of my diseration for the draft handin.

Final Deliverable Stage: This stage is for me to focus on feedback from the draft hand-in and make sure my Dissertation is of a high enough standard.

Poster Stage: This stage entirely dedicated to the design and creation of my disertation poster.

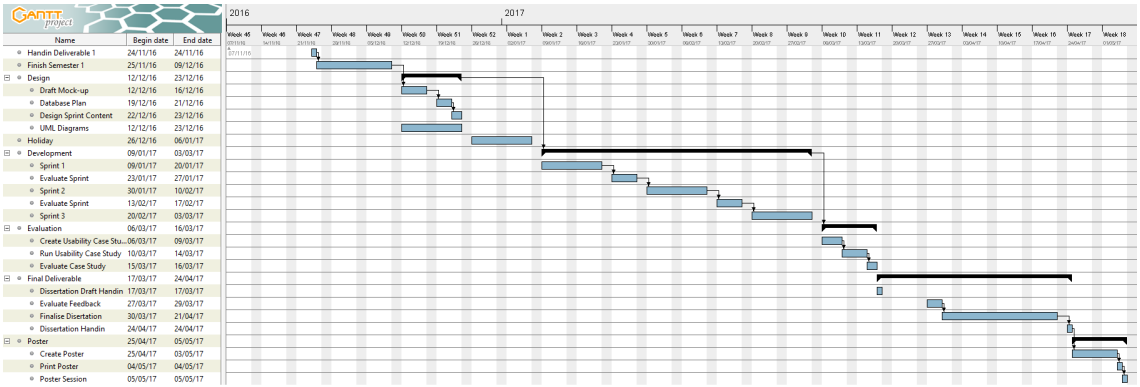

Figure 1: Project Gantt Chart

5.2 Risk Analysis

The risk relating to this dissertation are shown in tabel(2)

ID	Risk	Importance	Likelihood
R1	Test	Test	Test
R2	Test	Test	Test
R3	Test	Test	Test
R4	Test	Test	Test
R5	Test	Test	Test
R6	Test	Test	Test

Table 2: Risk Analysis

5.3 Professional

The professional part of this project will be done by following coding standards for the languages that I decide to use. As this project will be a Web application I will that both the html and css are validated an

System will be open source

development of user and developer documentation

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

A major ethical requirement of this project is to do with the storage of students personal information on a digital system. Is it ethical to keep all

no decieving see their own marks

5.6 Social

A few social issues are raised by this project. Such as if students can see the mark they have recieved straight away, will this result in markers raising grades to try and not offend the students.

Will this system result in a reduction of lab helps being required to mark labs. If the system speeds up the time to mark students less lab helps may-be need to run labs, resulting in people looking work.

c)chapterBibliography

References

[1] Mike Joy and Michael Luck. Effective electronic marking for on-line assessment. *ACM SIGCSE Bulletin*, 30(3):134–138, September 1998.