

FACULTY OF ENGINEERING

REI 414 Practical: E-Learning Platform

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1 Introduction

In this practical, an e-learning website is created to serve as a platform for communicating course material and evaluation results between lecturers and students. This documents is the report for this practical. It contains a description of the website's database, front-end and back-end structure.

2 Background

2.1 mySQL

2.2 Node.js

2.3 HTML

2.4 CSS

2.5 Javascript

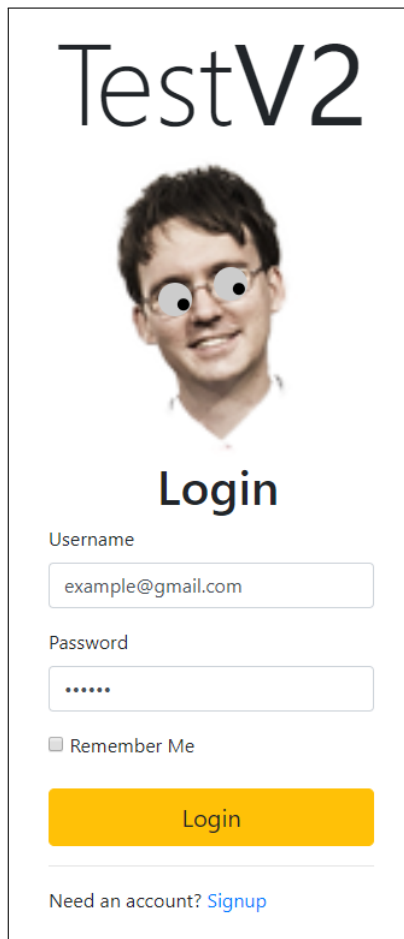
3 Database

4 Front-end


The following section provide images of the website's user interface to illustrate the front-end of the completed site.

4.1 Login and Register Interface

The first page any user encounters is the login page (figure [4.1](#)). If the current user does not have an account, the *Signup*-link can be used to browse to the registration page (figure [4.2](#)).



TestV2



Login

Username

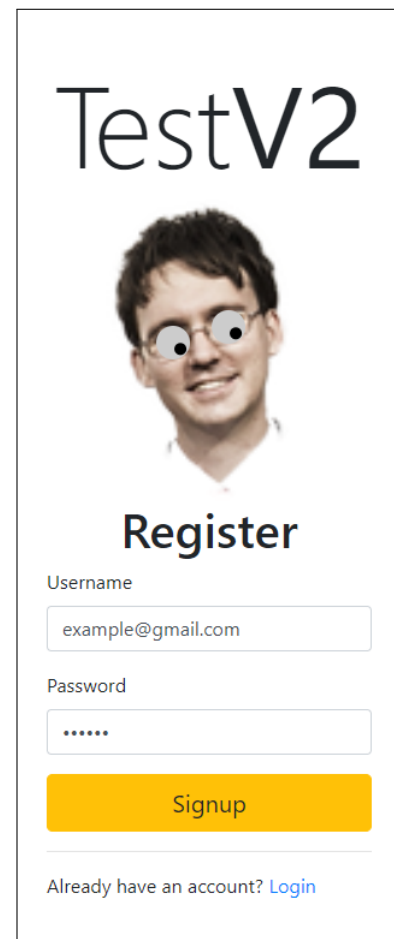
Password

☐ Remember Me


Login

Need an account? [Signup](#)

Figure 4.1: Login page



TestV2



Register

Username

Password

Signup

Already have an account? [Login](#)

Figure 4.2: Register page


4.2 Lecturer Interface

Upon signing in, lecturers are routed to the profile page where they can choose to create or add courses (figures 4.4 and 4.5). If the lecturer clicks on one of the added courses, he is taken to a corresponding section for managing the particular course.



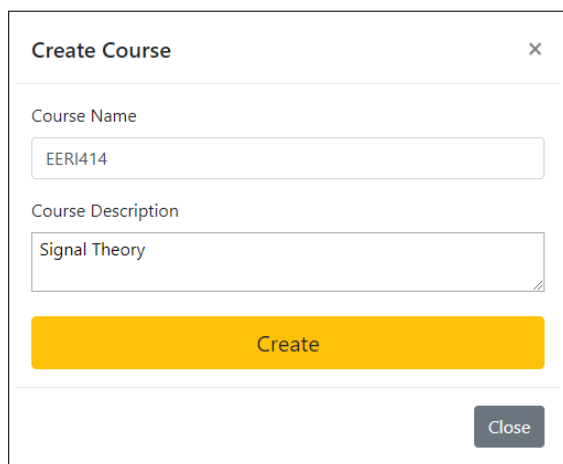
Profile Create Course Add Course [Logout](#)

Lecturer Profile

 **Welcome Andreas**

My Courses: REII414 EERI222

Figure 4.3: Lecturer profile page



Create Course ×

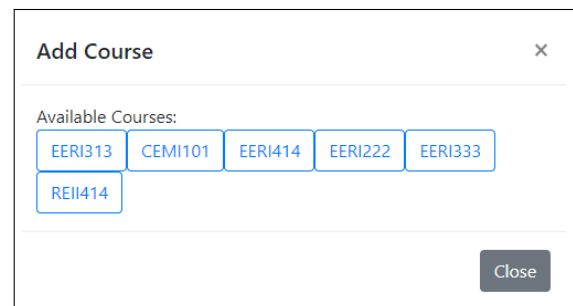
Course Name

Course Description

Create

Close

Figure 4.4: Page for creating a course



Add Course ×

Available Courses:

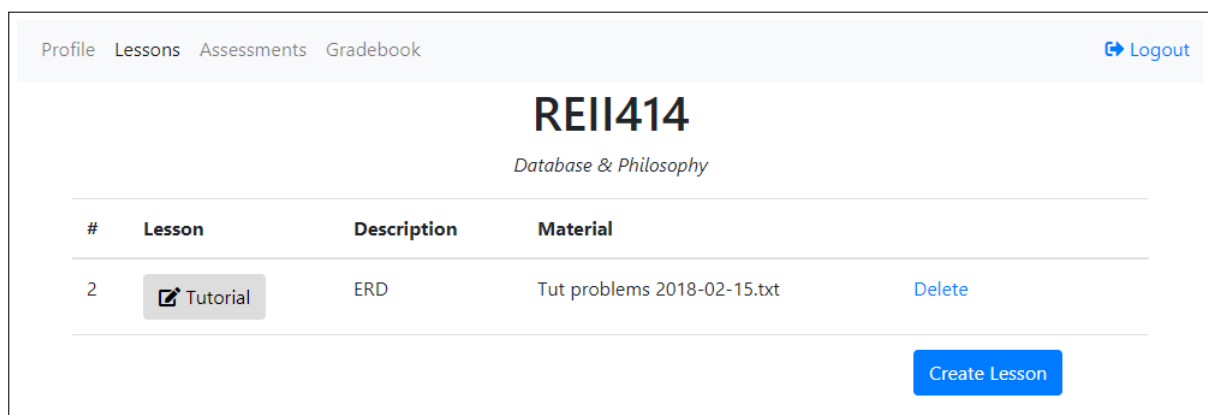
EERI313 CEMI101 EERI414 EERI222 EERI333

REII414

Close

Figure 4.5: Page for adding a course


Figure 4.6 shows the page for creating and deleting lessons. The page shown in figure 4.7 is used to create new assessments (figure 4.9) and update student marks (figure 4.10). The page in figure 4.8 is used to view each student's marks for every assessment.



Profile Lessons Assessments Gradebook [Logout](#)

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Database & Philosophy

#	Lesson	Description	Material
2	 Tutorial	ERD	Tut problems 2018-02-15.txt Delete

Create Lesson

Figure 4.6: Lecturer lessons page

Profile Lessons Assessments Gradebook [Logout](#)

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Name	Description	Maximum Marks
Test 1	Super Easy	20

[Update Marks](#)

[Create Assessment](#)

Figure 4.7: Lecturer assessments page

Profile Lessons Assessments Gradebook [Logout](#)

REII414

Flashback to reality! There goes net neutrality! [×](#)

Student	Assessment Name	Mark
jpbeukes01@gmail.com	Test 1	3

Figure 4.8: Lecturer gradebook page

Create Assessment [×](#)

Name

Description

Maximum Mark

[Create](#)

[Close](#)

Figure 4.9: Creating assessments page

Update Student Marks

Student Name

Mark

[Create](#)

Figure 4.10: Update student marks page

4.3 Student Interface

Students have the same interface as lecturers, except for the editing functionality. No add, update or delete privileges are given to students, aside from the option of adding courses to their site. The profile page for students are given in figure 4.11, but all other examples of student pages are omitted in favour of brevity.

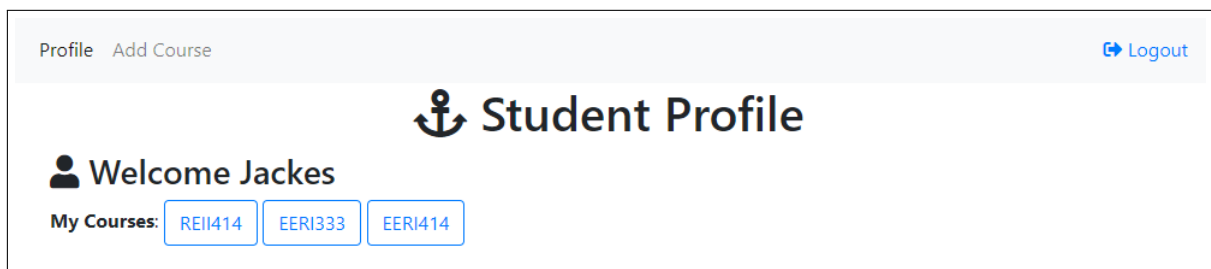


Figure 4.11: Student profile page

5 Back-end

6 Conclusion

6.1 Strenghts

6.2 Flaws

6.3 Improvements

Future versions of the website could include a section for online assessments, where lecturers are able to create new tests and students can complete existing tests. The website must then be able to evaluate the student's answers and update their marks.

The current version of the website can only be accessed via a local network. To launch the site for global use, a domain name have to be acquired.

6.4 Techniques Learned

HTTP post and get requests where used extensively in this project. Hence, much knowledge of the protocol and its header structure where acquired.