Introducing e-learning environments to the Biomedical Engineering Programme

4-Week Studentship Report

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Math Questions

Initially, the aim of this summer studentship was to create some math questions for the Engineering Module ENG103P (Mathematical Modelling and Analysis), in which Dr. Pilar Garcia Souto is working. However, when I started my studentship, this had already been addressed by Dr. Tristan Robinson, who created a range of math quizzes. Instead, my supervisor asked me to go through the question thoroughly and provide feedback from a student's point of view, which was then presented to Dr. Robinson.

Moodle Quizzes

On starting my studentship, I first had to familiarize myself with Moodle and the 'Quiz' Activity. I did this by using the UCL resources, 'Getting Started with Moodle' and 'Moodle for Administrators'. In addition, I went through all the Moodle quiz question types in order to determine usefulness and I made a table indicating the pros and cons, as well as possible applications of all question types. Although this task was time consuming, I think it was necessary to complete this before I proceeded with other tasks.

HTML and XML

Before starting my studentship, I did not have much experience with either HTML or XML. Because of how heavily Moodle quizzes rely on these two forms of coding, I familiarized myself with the basics of both and I now consider myself to be competent in these two languages.

CLOZE Question Type on Moodle

I was asked to find a way in which two answer boxes could be included in the same question. Through my research, I determined that although it had not been well documented by UCL, there was a Moodle question type that can accomplish this. It is called 'Cloze' or 'Embedded Answer'. This question type can be applied to 'Numerical', 'Short Answer' and 'Multiple Choice' questions.

In this question type, the answers boxes are written into the question text using a relatively simple code.

For short answer the answer box format is as follows:

{a:SHORTANSWER:=b~%c%d#e~f#e~*#e}

a- question weighting. Omitting this will assign a grade of 1.
b- correct answer (full marks)
c- percentage of mark given (from 0 to 100)
d- partially correct answer
e- answer specific feedback
f- incorrect answer with specific feedback
'*' represents a wildcard.

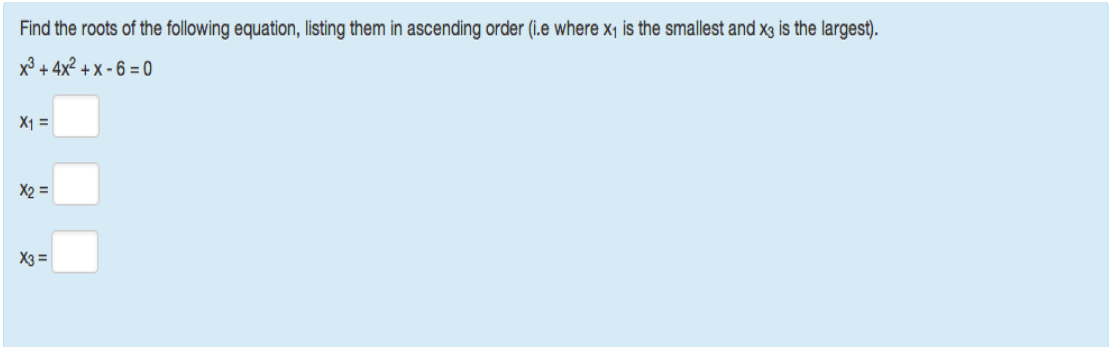
The same format applies to the multiple choice questions. 'SHORTANSWER' is replaced by 'MULTICHOICE'.

The format for numerical questions is slightly different. It is as follows:

{a:NUMERICAL:=b:g~%c%d:g#e~f:g#e~*#e}

Where g represents the accepted error.

An example of how this question type can be used is shown below:



The XML code for these types of questions were exported from Moodle and a MATLAB script to write such XML files was generated. This script was contributed to Dr. Tristan Robinson, so that he could incorporate it into his MATLAB GUI to create Moodle Question banks.

My studentship experience

The time that I spent doing my studentship was very enjoyable and informative. The academic staff that I encountered were very pleasant and helpful. My studentship afforded me the opportunity to learn to work both independently and with colleagues in the university environment. I would definitely recommend doing a studentship to other students who may be considering it. I consider it a beneficial experience, not only as a means of getting work experience, but also as a method of self and professional development, while contributing to the advancement of departmental research.