Aberystwyth Web Evaluation Surveys Of Module Experiences

AWESOME

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http://github.com/bbrks/AWESOME

Aims of the project

AWESOME is a web-based module evaluation questionnaire generator for the monitoring and evaluation of teaching, intended to be used at Aberystwyth University and released under the open source MIT license.

Module evaluation in Computer Science at Aberystwyth University is currently taken using Google Forms. Other departments use paper based questionnaires distributed by module lecturers during lecture time.

AWESOME aims to solve the problems caused by these methods by being:

- Anonymised – Encouraging honest and impartial answers.
- User friendly – Having questions all on a single page encourages completion.
- Responsive – Works on a wide range of devices. From desktop to phone.
- Personalised – Each questionnaire is tailored to the student.
- Reminding – Send chase up E-Mails to non-completed questionnaires.
- Reducing Survey Fatigue[1] – Only one survey, rather than one per module.

Progress so far

My dissertation project was to take the prototype version of AWESOME written by a previous student and run a security audit, refactor and extend AWESOME's functionality.

The security audit uncovered some issues and it became clear to me that the refactor was largely a complete rewrite, which would fix the security issues anyway. With the refactoring came an object-oriented Model-View-Controller (MVC) architecture with unit tested code and an extensible internationalisation (i18n) system which allows easily implementable additional languages. Changes to the database schema were also done to make use of primary, and foreign keys.

University management have expressed keen interest in the project, and I have been in ongoing meetings regarding AWESOME and its implementation into the university system.

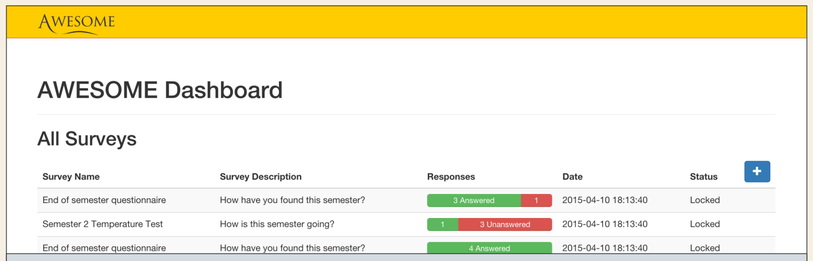

Figure 1: Admin Dashboard showing running surveys and response rates.

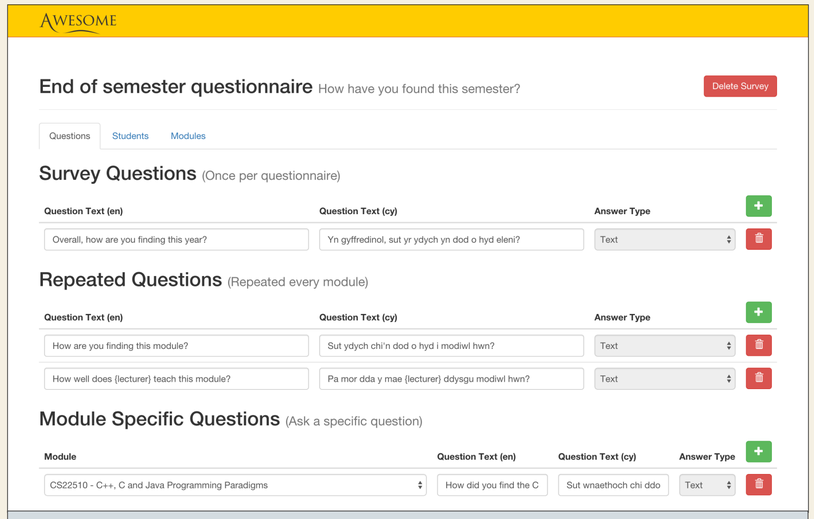

Figure 2: Adding questions to a survey.

Technical Details

AWESOME was a prototype developed by another student over summer. It has now mostly been re-written and is coded using a custom-made object-oriented and unit-tested PHP MVC framework which talks to a MySQL database to store data. The front-end heavily utilises Twitter Bootstrap for components and styling. A custom internationalisation system has also been developed to have extensible multilingual support.

Data is fed into AWESOME using CSV exports from AStRA (Aberystwyth Student Records and Admissions). This low-coupling, high-cohesion approach is advantageous in the event of university system updates breaking functionality.

Once the data is imported into AWESOME, you then add your questions to the survey, either on a global scope, repeated scope or module-specific scope. (See Figure 2).

After the questions are saved, you can then send out an E-mail to each participant, with a unique tokenised URL to complete the survey. The survey can only be completed once, and all results are anonymous. They are stored in the database without any link back to that respondent or the token used.

Respondents can then open their link and are faced with a personalised bi-lingual questionnaire to answer.

Reminder E-mails can also be sent to respondents that have yet to complete the survey to increase response rates.

AWESOME has been developed on GitHub with publicly available code licensed under the open source MIT license.

Future Plans

In order to finish the project, I need to add more question types (e.g. 1-5 ratings, check-boxes), tidy up the code and add unit tests for it to be maintainable by another developer, and write supporting documentation.

This would take AWESOME to a state where it is usable, but also extensible in the future by other developers. They may be able to implement the extra goals listed below that were stretch goals of my project.

Extra goals

Analytics

AWESOME is currently a data gathering tool. It cannot analyse the results sent back, other than displaying them and a few simple graphs. One idea mentioned was that it would be useful to have the ability to write queries such as 'List all of the modules that have a lower than average rating and contain the word "Feedback" in textual comments.'

CSV Export

The ability to export answers to CSV format is also important to have so that responses can be used in other applications.

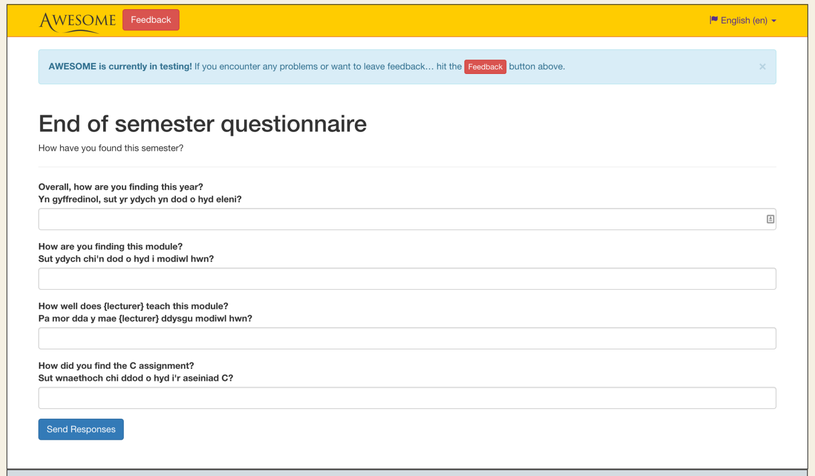

Figure 3: Answering a questionnaire.

[1] S. R. Porter, M. E. Whitcomb, and W. H. Weitzer, "Multiple surveys of students and survey fatigue," New Directions for Institutional Research, vol. 2004, no. 121, pp. 63-73, Jan. 2004. [Online]. Available: http://dx.doi.org/10.1002/ir.101

[2] D. Kember, D. Y. P. Leung, and K. P. Kwan, "Does the use of student feedback questionnaires improve the overall quality of teaching?" Assessment & Evaluation in Higher Education, vol. 27, no. 5, pp. 411-425, Sep. 2002. [Online]. Available: http://dx.doi.org/10.1080/0260293022000009294

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