

# **Aberystwyth Web Evaluation Surveys Of Module Experiences (*AWESOME*)**

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Report Name	Outline Project Specification
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## 1 Project description

The Aberystwyth Web Evaluation Surveys Of Module Experiences (AWESOME), is primarily a tool that enables departments to gather feedback by students about modules, lecturers, and other departmental issues. It is intended to replace and improve upon the current method of collecting feedback via Google Forms. This can be achieved by providing a personalised survey for each student to make questions personalised whilst also keeping results anonymous and confidential, and being able to chase up students for not answering.

Advanced analytics and reports is also a feature which is highly requested by university management. For example, the system needs to be able to extract textual comments from the worst performing modules containing the word 'Feedback'. This can help upper management identify problematic areas in the university and look into the issue further.

AWESOME is a PHP web application developed by Keiron O'Shea during the summer of 2014 under the supervision of Dr. Hannah Dee. This project's goal is to bring the current prototype up to a functioning, implementable, and extensible standard. Security of the system is critical, and so implementing a continuous integration system with unit tests and vulnerability scanning is vital to get up and running early on in the project. Additionally, the system must be multilingual and accessible to adhere to the university's policies.

## 2 Proposed tasks

The project is currently written in procedural PHP, using Twig [2] as a templating engine. In order to make the program more extensible and easier to maintain, it would make sense to refactor the current codebase to follow an object oriented (OOP) model-view-controller (MVC) [9] architectural pattern.

The number one priority on this project is to do a security audit on the software currently as it stands and a sanity check on the logic behind it. After this, the design of the OOP MVC version of the software can begin as well as the other tasks listed.

### 2.1 Short Term Tasks

**Change procedural design** – Design a new software architecture using MVC with OOP.

**PHP Data Objects (PDO)** – Change the current mysqli and tidy\_sql implementation to use PDO for greater security, flexibility and features when interacting with databases.

**Protect admin dashboard** – Using LDAP HTTP authentication via .htaccess

**Unit Testing** – Use Travis CI [1] to do automated unit testing and vulnerability scanning

### 2.2 Long Term Tasks

**Analytics/Reports** – Create a system which can narrow down responses to criteria (e.g. Find modules with a low satisfaction score which mention 'feedback' in comments)

**Internationalisation (i18n)** – Reimplement i18n system to support additional languages.

**Accessibility (a11y)** – Ensure all student-facing pages are accessible for disabled users.

**Relational Database** – Modify the database schema to be object oriented and relational.

### 2.3 Future Considerations

**Traffic Light Dashboard** – Have a dashboard showing traffic lights for all modules and departments to detect current issues.

### 3 Project deliverables

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### Annotated Bibliography

- [1] “Travis CI,” <https://travis-ci.org>, Feb. 2015, accessed Feb 2015.

Travis CI is a hosted continuous integration system that connects to GitHub to help with automated unit testing and vulnerability scanning.

- [2] “Twig - The flexible, fast, and secure template engine for PHP,” <http://twig.sensiolabs.org>, Feb. 2015, accessed Feb 2015.

Twig is the templating engine using by Keiron

- [3] K. T. Brinko, “The Practice of Giving Feedback to Improve Teaching: What Is Effective?” *The Journal of Higher Education*, vol. 64, no. 5, 1993. [Online]. Available: <http://www.jstor.org/stable/2959994>

- [4] P. Cohen, “Effectiveness of student-rating feedback for improving college instruction: A meta-analysis of findings,” vol. 13, no. 4, pp. 321–341, 1980. [Online]. Available: <http://dx.doi.org/10.1007/bf00976252>

- [5] 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, Sept. 2002. [Online]. Available: <http://dx.doi.org/10.1080/0260293022000009294>

- [6] H. W. Marsh, “Students’ evaluations of University teaching: Research findings, methodological issues, and directions for future research,” *International Journal of Educational Research*, vol. 11, no. 3, pp. 253–388, Jan. 1987. [Online]. Available: [http://dx.doi.org/10.1016/0883-0355\(87\)90001-2](http://dx.doi.org/10.1016/0883-0355(87)90001-2)

- [7] H. Marsh, “Students’ Evaluations of University Teaching: Dimensionality, Reliability, Validity, Potential Biases and Usefulness,” in *The Scholarship of Teaching and Learning in Higher Education: An Evidence-Based Perspective*, R. Perry and J. Smart, Eds. Springer Netherlands, 2007, pp. 319–383. [Online]. Available: [http://dx.doi.org/10.1007/1-4020-5742-3\\_9](http://dx.doi.org/10.1007/1-4020-5742-3_9)

- [8] A. Rotem and N. S. Glasman, “On the Effectiveness of Students’ Evaluative Feedback to University Instructors,” *Review of Educational Research*, vol. 49, no. 3, pp. 497–511, Sept. 1979. [Online]. Available: <http://dx.doi.org/10.3102/00346543049003497>

- [9] J. Stump, “Understanding MVC in PHP,” <http://archive.oreilly.com/pub/a/php/archive/mvc-intro.html>, Feb. 2015.

- [10] H. K. Wachtel, “Student Evaluation of College Teaching Effectiveness: a brief review,” *Assessment & Evaluation in Higher Education*, vol. 23, no. 2, pp. 191–212, Jan. 1998. [Online]. Available: <http://dx.doi.org/10.1080/0260293980230207>