

## Chapter 1.8

# Open Source Survey Software

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### ABSTRACT

One of the significant advances in software design afforded by the Internet has been the open source movement, an effort to collaboratively create software and make it widely and freely available to the online community. Although the open source movement started with Unix-like computer operating systems, it has expanded to include a wide variety of software programs, including tools to publish and analyze online surveys. This chapter introduces the open source movement, and then profiles three leading open source survey programs: php Easy Survey Package (phpESP), PHP Surveyor, and the Moodle course management system.

### BACKGROUND

The open source movement has its roots in the Unix community and, in particular, the development of the GNU Project back in 1984. The goal of this idealistic group of software developers was to create an entirely free Unix operating system so users would not be dependent on commercial versions from Sun, IBM, and others. Here is the introduction from the GNU Web page:

The GNU Project was launched in 1984 to develop a complete Unix-like operating system which is free software: the GNU system. (GNU is a recursive acronym for ‘GNU’s Not Unix’; it is pronounced ‘guh-NEW’.) Variants of the GNU operating system, which use the kernel Linux, are now widely used; though these systems are often referred to as ‘Linux,’ they are more accurately called GNU/Linux systems. (<http://www.gnu.org>)

Since then, the movement has grown far beyond computer scientists writing operating system code, and has become an ideology in which people freely contribute to content that is made freely available, and where changes are not only acceptable, but encouraged, just as long as the results are offered back to the community. In many ways, it is a sophisticated countercultural response to the limitations of copyrights and patents. As Raymond (1998) declared, “Perhaps in the end the open-source culture will triumph... simply because the commercial world cannot win an evolutionary arms race with open-source communities that can put orders of magnitude more skilled time into a problem.”

Not surprisingly, the open source approach has moved beyond computer operating systems into high-demand computer and Internet-based applications, including survey software. For those individuals or organizations unable or uninter-

ested in paying commercial hosting companies to administer online surveys and tests, there are open source equivalents. Popular open source survey programs include the php Easy Survey Package (phpESP) and PHP Surveyor. For educational-style tests, the Moodle open source course management system is one of the more popular.

### **PROFILES AND COMMENTARY**

phpESP, PHP Surveyor, and Moodle are all open source programs that run on Unix Web platforms and make use of the php scripting language and the MySQL database system. Each of these programs can be installed using their respective Web-based installation programs. Additionally, many Web hosting providers offer one-click installation of various open source programs through a menu-driven program called Fantastico De Luxe. Fantastico generally comes bundled with phpESP, PHP Surveyor, and Moodle, along with other useful open source programs. Once installed, all three programs can be administered via a Web-based interface.

phpESP is the older of the survey programs and features a number of basic and advanced online survey functions. To create a survey, one first configures the general survey details, along with the look and feel of the survey template, and then populates the survey with individual questions. A variety of question types are supported including yes/no, multiple choice, check boxes, Likert-style scales, short answer, and even essay (although open-ended questions cannot be tallied the same way as multiple-choice and other fixed questions). Once all of the questions and answer options are entered and ordered, the user can test the survey before publishing it for real. Once activated, the survey administrator can view individual and aggregate results through the management interface, as well as download the results for analysis in Excel, SPSS, or similar programs. The strength of phpESP is its varied features,

extensive development history, and simplicity of code modification. The weakness of the program is that it lacks detailed documentation and thus, can be confounding to basic computer users.

PHP Surveyor possesses many of the same survey features as phpESP, but couples them with a significantly richer administration interface that makes the program more accessible to novices. In addition to 20 different question types ranging from multiple choice and checkboxes to Likert-style scales and flexible arrays (which permit custom text descriptors in each point along the scale), PHP Surveyor supports open or closed surveys. Open surveys can be completed by anyone visiting the Web site, while closed surveys require registration or invitation to participate. Furthermore, the survey administrator can preregister selected users and send out e-mails to solicit participation in the online survey. PHP Surveyor also supports branching surveys, which enable different follow-up questions to be presented based on answers to previous questions, and uses a templating feature to change the look and feel of online surveys. Survey responses can be reviewed online or downloaded for more in-depth statistical analysis. While still under heavy development, PHP Surveyor is likely to become a leading open source survey program because of its rich feature set and relative ease of use.

Unlike phpESP and PHP Surveyor, Moodle is not strictly a survey program, but rather is an open source course management system (CMS). Moodle can be considered an open source equivalent to commercial CMSs like Blackboard or WebCT and thus, is designed for instructional purposes. It includes features to post course syllabi, documents, grades, and hold online class discussions. In addition, however, Moodle includes robust online quiz and survey modules that can be used to administer online assessments or surveys. The quiz module enables instructors to set up assessments, along with the correct answers, so students can complete these and have their scores provided instantly. The survey module includes predefined

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